PARTS LIST &
CIRCUIT DIAGRAMS

FISHER

FVH-D40HV (West Germany)
FVH-D40S (Europe)

COLOUR VIDEO CASSETTE RECORDER

Please see other materials with Reference No. given in table below.

Materials	Model No.	Reference No.
SERVICE MANUAL	FVH-D40 Series	WM-21747
MECHANISM MANUAL	FVH-P30S	WM-21750
TRANING MANUAL	FVH-P10 ~ P50 FVH-D40, D55	WM-21476 WM-21756

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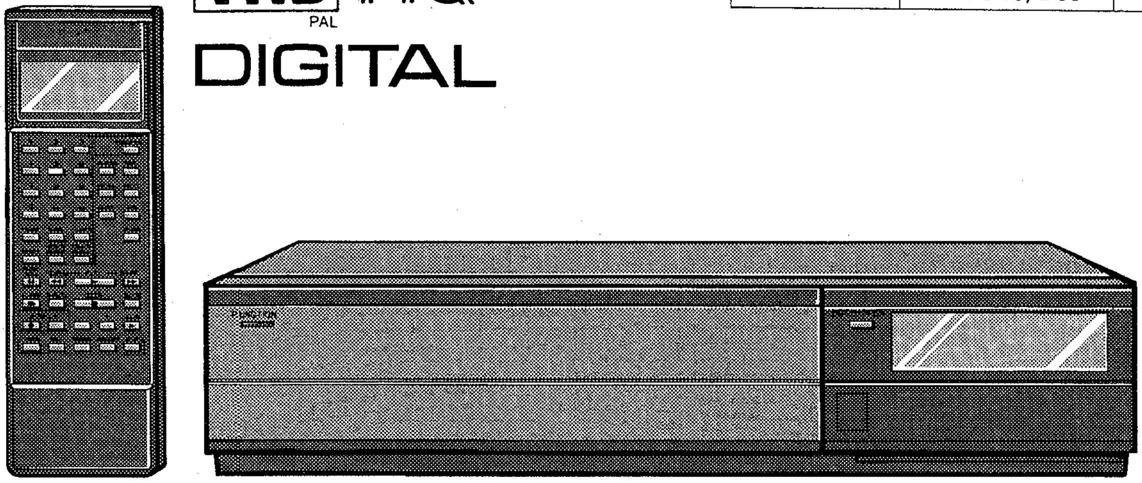

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REMOTE CONTROL UNIT 25
CIRCUIT DIAGRAMS

PRODUCT SAFETY NOTICE

The components designated by a symbol (⚠) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List. Do not deviate from the resistance, wattage and voltage ratings shown.

NOTE : Parts order must contain Model Number, Part Number and Description.

A11300 BP2D/GF, EXF

REFERENCE NO. WM-21763

ACCESSORIES

Ref No.	Part No.	Description
	143–6–410T–06200	INSTRUCTION MANUAL(FVH-D40HV)
or	143–6–410T–06300	INSTRUCTION MANUAL(FVH-D40S)
	143–9–4100–69200	REMOTE CONTROL UNIT
	4–243V–41600	ANTENNA OUTPUT CABLE
	143–6–415T–03100	NOTICE(FVH-D40HV ONLY)
	143–6–451T–18400	GUARANTEE CARD

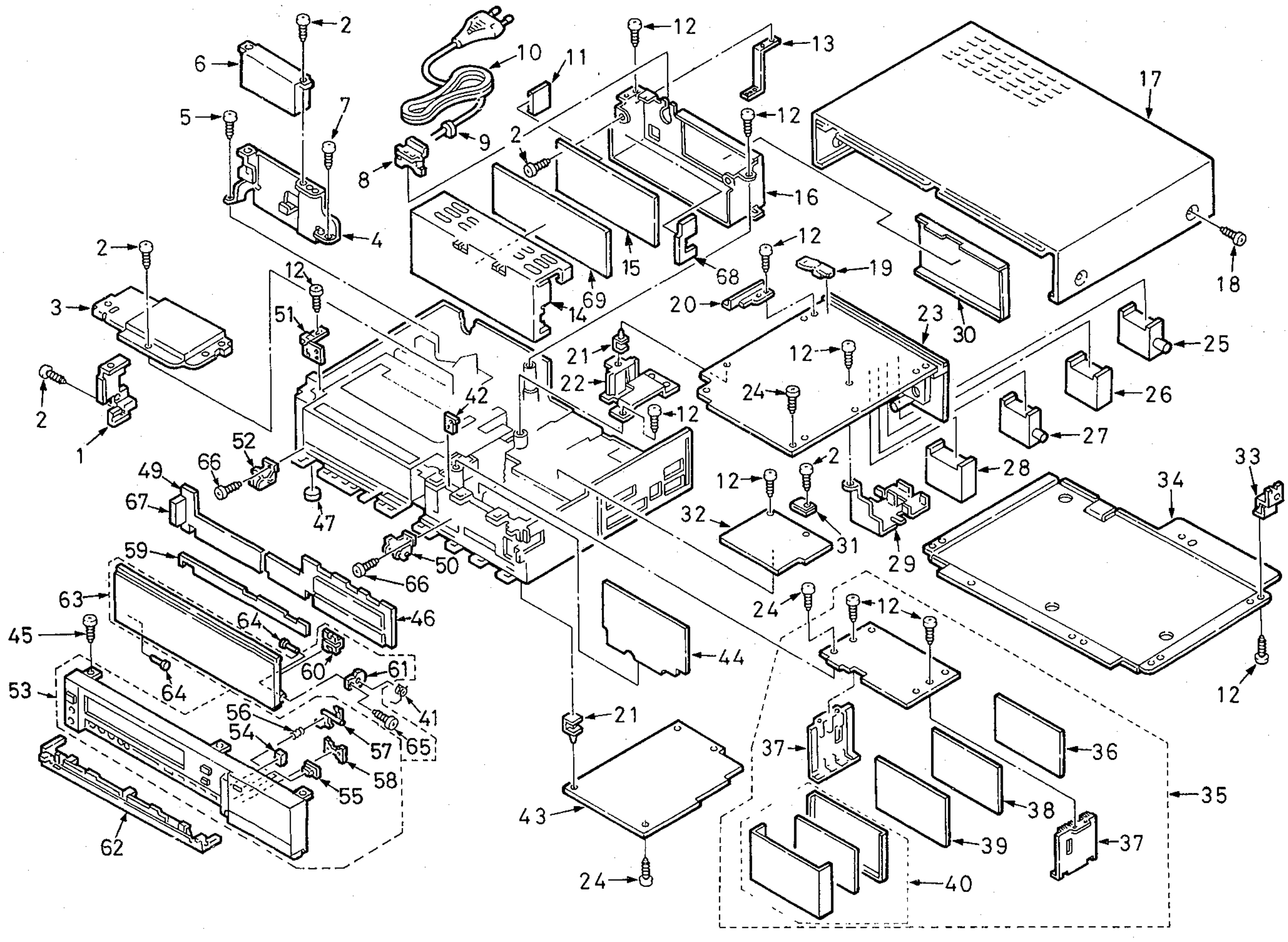
PACKING MATERIALS

Ref No.	Part No.	Description
	143–6–132T–89000	INNER CARTON(FVH-D40HV)
or	143–6–132T–89001	INNER CARTON(FVH-D40S)
	143–6–251T–08800	INDIVIDUAL POLY.COVER
	143–6–144T–20000	PAD,FRONT
	143–6–144T–20100	PAD,REAR

CABINET & CHASSIS PARTS

Ref No.	Part No.	Description
1	143–2–351T–80100	BRACKET,SHIELD PLATE
2	411 021 6405	SCR S-TPG BIN 3X8
3	143–2–322T–85800	SHIELD PLATE
4	143–2–351T–79400	BRACKET,VP-1 BOARD
5	411 045 6702	SCR PAN+SW 3X8
6	143–0–233V–47524	VP-1 BOARD ASSEMBLY
7	411 045 4807	SCR PAN+SW 3X4
8	143–2–210T–09900	BRACKET
9	143–2–464T–16400	FIXER,POWER CORD
or	143–2–464T–02700	FIXER,POWER CORD
10	⚠ 143–0–236V–67530	POWER CORD
11	143–0–233V–63350	PW-2 BOARD ASSEMBLY
12	411 021 4005	SCR S-TPG BIN 3X12
13	143–2–322T–99100	SHIELD PLATE
14	143–2–322T–99500	SHIELD PLATE
15	143–0–233V–63271	PW-1 BOARD ASSEMBLY
16	143–2–322T–99400	SHIELD PLATE
17	143–2–111T–11403	CABINET
18	412 024 7604	SPECIAL SCREW
19	143–2–853T–18800	SPRING PLATE
20	143–2–465T–13000	STOPPER(INCLUDE VD-1)
21	143–2–251T–02200	HINGE
22	143–2–210T–14000	BRACKET,VD-1 BOARD
23	143–0–233V–62000	VD-1 BOARD ASSEMBLY(FVH-D40HV)
or	143–0–233V–62030	VD-1 BOARD ASSEMBLY(FVH-D40S)
24	411 021 4203	SCR S-TPG BIN 3X12
25	143–9–4300–84300	RF CONVERTER(FVH-D40HV)
or	143–9–4300–84400	RF CONVERTER(FVH-D40HV)
or	143–9–4300–84100	RF CONVERTER(FVH-D40S)
26	143–0–233V–36222	TN-1 BOARD ASSEMBLY(FVH-D40HV)
or	143–0–233V–36200	TN-1 BOARD ASSEMBLY(FVH-D40S)
27	4–115V–25500	TUNER(FVH-D40HV)
or	4–115V–24500	TUNER(FVH-D40S)
28	143–0–233V–49221	TN-2 BOARD ASSEMBLY(FVH-D40HV)
or	143–0–233V–49142	TN-2 BOARD ASSEMBLY(FVH-D40S)
or	143–0–233V–49122	TN-2 BOARD ASSEMBLY(FVH-D40S)
29	143–2–359T–03210	BRACKET TUNER,INCLUDE VD-1(FVH-D40HV)
or	143–2–359T–03200	BRACKET TUNER,INCLUDE VD-1(FVH-D40S)
30	143–2–322T–99600	SHIELD PLATE
31	143–2–322T–98900	SHIELD PLATE
32	143–0–233V–62600	AD-1 BOARD ASSEMBLY(FVH-D40HV)
or	143–0–233V–62621	AD-1 BOARD ASSEMBLY(FVH-D40S)

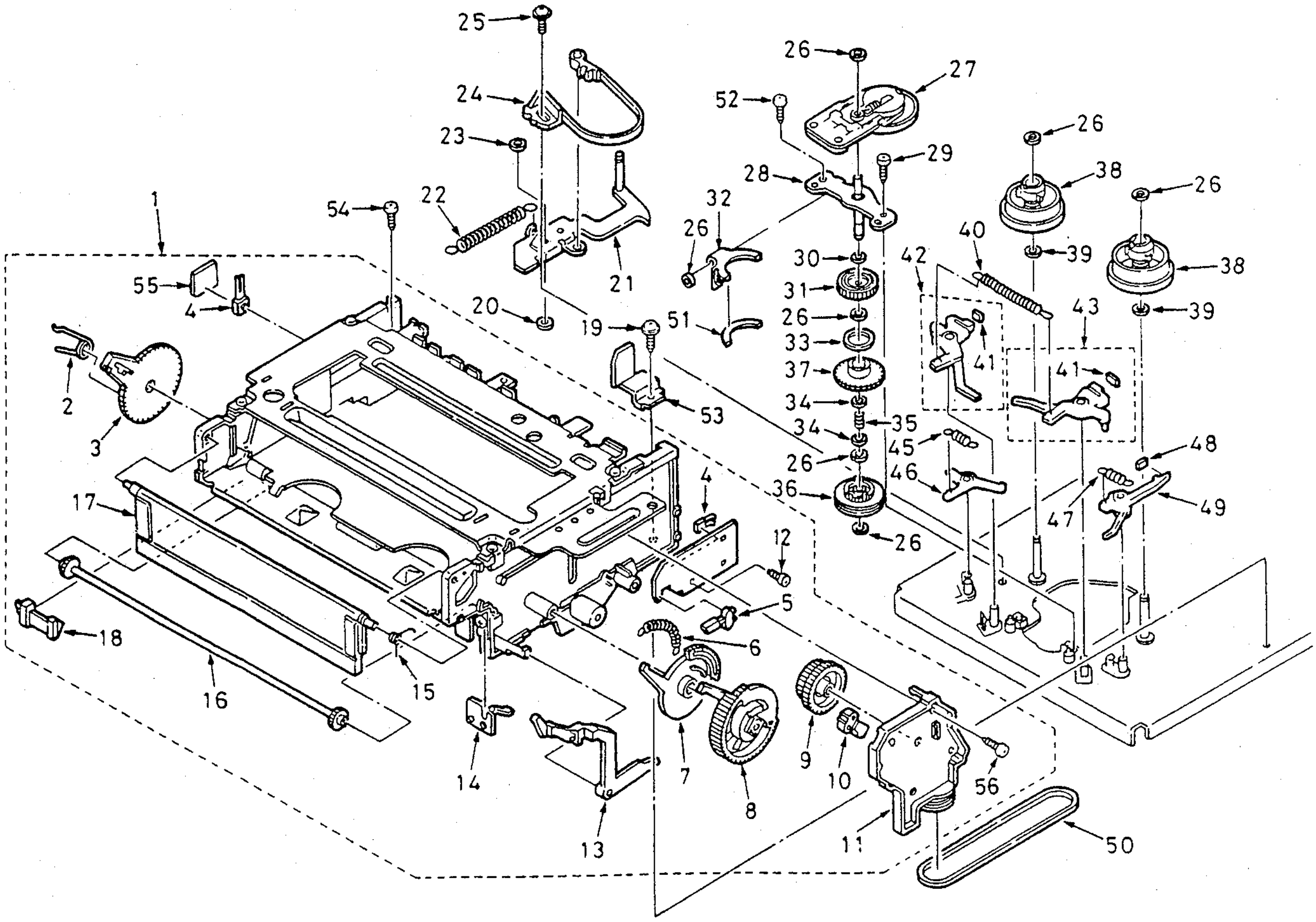
Ref No.	Part No.	Description
33	143–2–310T–08500	BRACKET
34	143–2–125T–09900	BOTTOM PLATE
35	143–0–233V–63650	DM-1 BOARD ASSEMBLY
36	143–0–233V–63700	DM-2 BOARD ASSEMBLY
37	143–2–377T–22800	BRACKET P C BOARD
38	143–0–233V–63800	DM-3 BOARD ASSEMBLY
39	143–0–233V–63950	DM-4 BOARD ASSEMBLY
40	143–0–233V–65800	DM-5 BOARD ASSEMBLY
41	143–2–851T–93000	SPRING COIL
42	143–2–310T–10000	BRACKET
43	143–0–233V–64423	SY-1 BOARD ASSEMBLY
44	143–0–233V–61900	TM-1 BOARD ASSEMBLY(FVH-D40HV)
or	143–0–233V–61923	TM-1 BOARD ASSEMBLY(FVH-D40S)
45	411 020 9100	SCR S-TPG BRZ+FLG 3X12
46	143–0–233V–65900	TM-4 BOARD ASSEMBLY(FVH-D40HV)
or	143–0–233V–65921	TM-4 BOARD ASSEMBLY(FVH-D40S)
47	143–2–174T–02402	STAND
49	143–0–233V–66000	TM-5 BOARD ASSEMBLY
50	143–0–310T–09400	BRACKET
51	143–2–310T–09600	BRACKET
52	143–2–310T–09500	BRACKET
53	143–0–122T–27110	FRONT PANEL ASSEMBLY
54	143–2–766T–00100	MAGNET HOLDER
55	143–2–161T–88000	PUSH BUTTON
56	143–2–851T–91500	SPRING COIL
57	143–2–741T–66700	LEVER
58	143–2–210T–14100	BRACKET
59	143–2–135T–33300	COVER
60	143–2–310T–10700	BRACKET
61	143–2–581T–16700	GEAR
62	143–0–312T–09700	SUB CHASSIS
63	143–0–133T–28102	COMPARTMENT COVER ASSEMBLY(FVH-D40HV)
or	143–0–133T–28122	COMPARTMENT COVER ASSEMBLY(FVH-D40S)
64	143–2–753T–02200	SHAFT
65	411 025 9303	SCR S-TPG PAN 2X6
66	411 002 8503	SCR PAN 3X6
67	143–0–233V–67700	TB-2 BOARD ASSEMBLY
68	143–2–327T–15401	INSULATOR
69	143–2–327T–15301	INSULATOR



MECHANISM PARTS 1

Ref No.	Part No.	Description
1	143-9-351T-80484	BRACKET MTG ASSY
2	143-2-851T-89900	SPRING COIL
3	143-2-581T-15600	GEAR
4	407 098 3201	PHOTO COUPLE PN150SAN
5	4-231V-86900	SPECIAL SWITCH
6	143-2-851T-89800	SPRING COIL
7	143-2-581T-15500	GEAR
8	143-2-581T-15400	GEAR
9	143-2-581T-15800	GEAR
10	4-231V-87100	SPECIAL SWITCH
11	143-0-351T-78300	BRACKET MTG ASSY
12	411 021 6405	SCR S-TPG BIN 3X8
13	143-2-741T-64500	LEVER
14	143-2-853T-18200	SPRING PLATE
15	143-2-851T-90000	SPRING COIL
16	143-0-751T-99200	SHAFT ASSY
17	143-2-133T-28235	COMPARTMENT LID
18	4-231V-87000	SPECIAL SWITCH
19	411 036 3208	SCR PAN+SW+W 3X10
20	412 012 8309	SPECIAL WASHER
21	143-0-741T-65200	LEVER ASSY
22	143-2-851T-87701	SPRING COIL
23	412 021 4903	SPECIAL WASHER
24	143-0-711T-02101	BRAKE BAND ASSY
25	411 046 9702	SCR PAN+SW+W 3X6
26	412 015 9600	SPECIAL WASHER
27	143-0-662T-15621	ROLLER ASSY REEL DRIVE
28	143-0-351T-76900	BRACKET MTG ASSY
29	411 023 4201	SCR S-TPG PAN 3X10
30	412 015 8900	SPECIAL WASHER
31	143-2-661T-72800	PULLEY

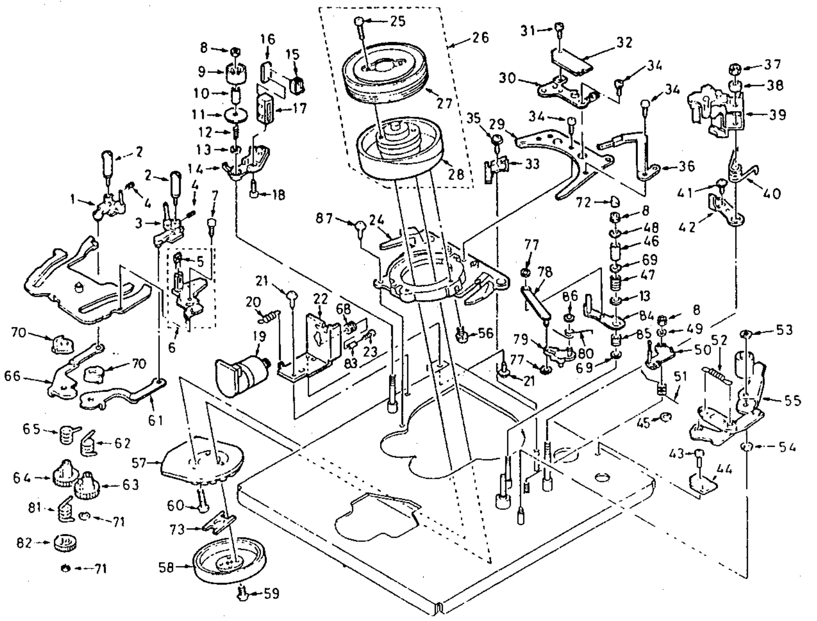
Ref No.	Part No.	Description
32	143-2-741T-62100	LEVER
33	412 024 8601	SPECIAL WASHER 0.5T
34	412 015 8702	SPECIAL WASHER
35	143-2-851T-86800	SPRING COIL 0.5T
36	143-2-661T-72701	PULLEY
37	143-2-581T-13700	GEAR
38	143-0-531T-05421	REEL PLATE ASSY
39	412 015 8504	SPECIAL WASHER D3.1XD6X0.5T
or	412 015 8603	SPECIAL WASHER D3.1XD6X0.25T
or	412 015 8702	SPECIAL WASHER D3.1XD6X0.13T
or	412 015 8801	SPECIAL WASHER 0.2T
or	412 015 8900	SPECIAL WASHER 3.1X6X0.4T
or	412 021 5306	SPECIAL WASHER D3.1XD6X0.3T
40	143-2-851T-87600	SPRING COIL
41	143-2-712T-05200	BRAKE SHOE
42	143-0-741T-62200	LEVER ASSY
43	143-0-741T-62300	LEVER ASSY
45	143-2-851T-92501	SPRING COIL
46	143-2-741T-63400	LEVER
47	143-2-851T-92100	SPRING COIL
48	143-2-712T-05501	BRAKE SHOE
49	143-2-741T-62600	LEVER
50	143-2-564T-05300	BELT FLONT LOADING
51	143-2-246T-45500	SHEET
52	411 023 9800	SCR S-TPG PAN 3X8
53	143-2-351T-80200	BRACKET MTG
54	411 047 7905	SCR PAN+FLG 3X7
55	143-2-135T-32900	COVER
56	411 021 3503	SCR S-TPG BIN 3X10



MECHANISM PARTS 2

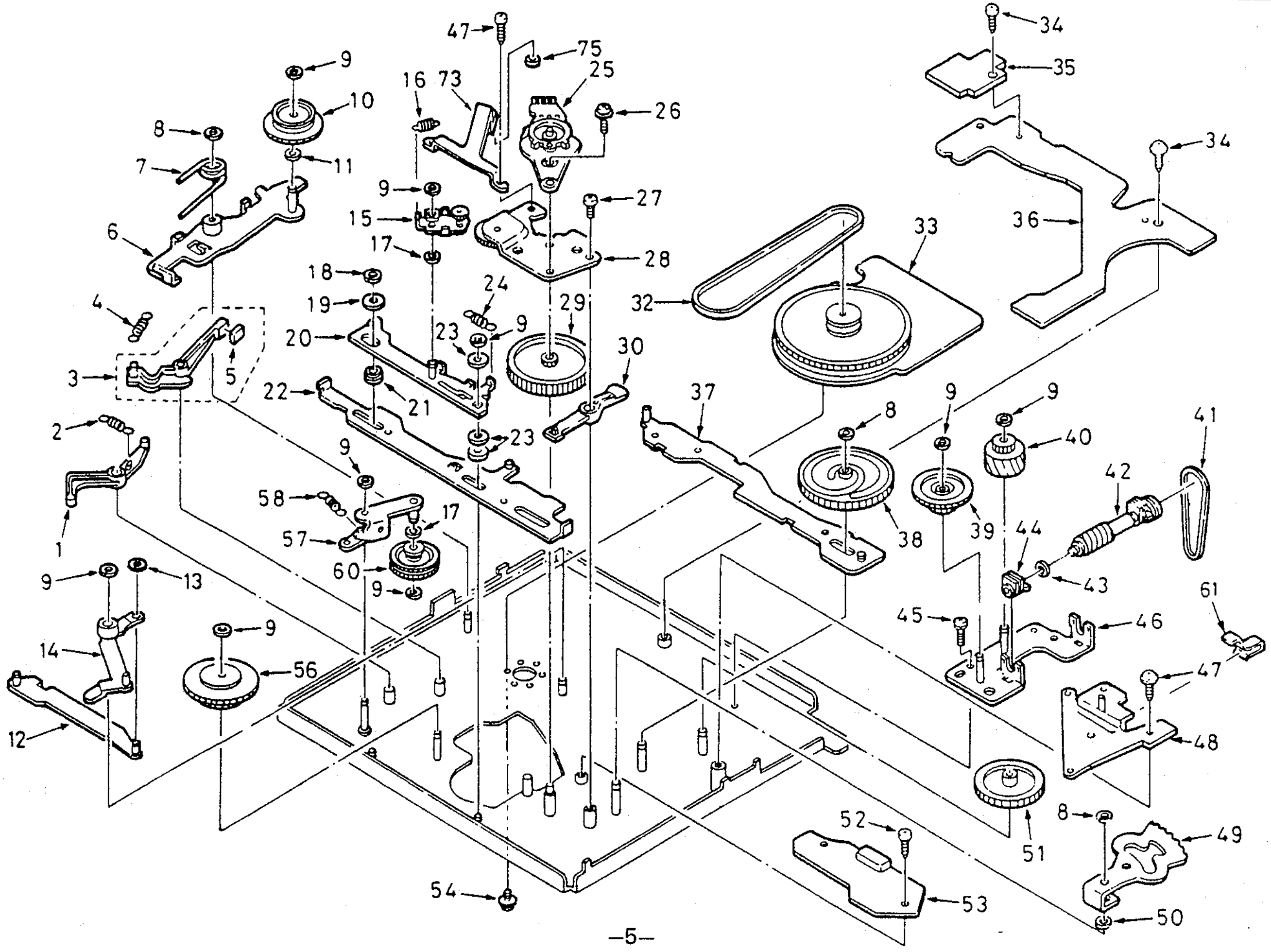
Ref No.	Part No.	Description
1	143-0-822T-03021	BRACKET TAPE GUIDE ASSY
2	143-0-821T-14400	TAPE GUIDE ASSY
or	143-0-821T-14500	TAPE GUIDE ASSY
3	143-0-822T-03121	BRACKET TAPE GUIDE ASSY
4	411 063 0706	SCR SET HEX-SCT 2X2
5	407 094 2000	LED LN59-SAN
6	143-0-351T-79201	BRACKET MTG ASSY
7	412 021 1209	SPECIAL SCREW
8	412 015 8306	SPECIAL NUT
9	143-2-662T-15400	ROLLER
10	143-2-681T-17501	SLEEVE
or	143-2-681T-17500	SLEEVE
11	412 023 2105	WASHER F 3X18X2
12	143-2-851T-91300	SPRING COIL
13	412 024 8502	SPECIAL WASHER
14	143-2-741T-63700	LEVER
15	4-235V-46502	SOCKET
16	4-233V-26300	P C BOARD
17	4-242V-24700	MAGNETIC HEAD
18	411 002 4901	SCR PAN 2X4
19	4-527V-03010	COMMUTATE MOTOR
20	143-2-851T-89200	SPRING COIL
21	411 047 6809	SCR PAN+FLG 3X4
or	411 047 8100	SCR PAN+FLG 3X8
22	143-2-378T-02901	BRACKET MOTOR
23	411 047 7509	SCR PAN+FLG 3X6
24	143-2-776T-02500	BRACKET CYLINDER
or	143-2-776T-02520	BRACKET CYLINDER
25	411 037 6208	SCR PAN+W 3X8
26	143-0-771T-13920	CYLINDER ROTARY HEAD ASSY
27	143-0-771T-13900	CYLINDER ROTARY HEAD ASSY
28	143-0-771T-08900	CYLINDER ROTARY HEAD ASSY
29	143-2-351T-77500	BRACKET MTG
30	143-2-377T-21700	BRACKET P C BOARD
31	411 003 8809	SCR PAN+SW 2.6X6
32	143-0-233V-35500	MC30 ASSY
33	143-2-351T-80000	BRACKET MTG
or	143-2-351T-80001	BRACKET MTG
34	411 003 8908	SCR PAN+SW 3X6
35	411 020 9902	SCR S-TPG BRZ+FLG 3X8
or	411 020 8905	SCR S-TPG BRZ+FLG 3X10
36	143-0-324T-00925	EARTH PLATE ASSY
37	412 015 8207	SPECIAL NUT
38	143-2-352T-22800	SPACER
39	143-9-242V-27500	MAGNETIC HEAD ASSY
40	143-2-851T-89500	SPRING COIL
41	411 036 5301	SCR PAN+SW+W 3X6

Ref No.	Part No.	Description
42	143-2-375T-11000	BRACKET HEAD
43	411 046 9702	SCR PAN+SW+W 3X6
44	4-221V-18900	RESISTOR
45	412 021 4903	SPECIAL WASHER
46	143-2-821T-14100	TAPE GUIDE
47	143-2-851T-91300	SPRING COIL
48	412 023 1900	WASHER F 3X6.5X0.5
49	412 015 8504	SPECIAL WASHER
50	143-0-741T-63300	LEVER ASSY
51	143-2-851T-87900	SPRING COIL
52	143-2-851T-87800	SPRING COIL
53	412 021 5207	SPECIAL WASHER
54	412 012 9108	SPECIAL WASHER
55	143-0-545T-02830	LEVER PINCH ROLLER ASSY
56	411 045 5408	SCR PAN+SW 3X5
57	4-264V-17400	MAGNETIC COIL
58	143-2-774T-03110	ROTOR
59	411 044 9001	SCR PAN+SW 2.3X6
60	411 044 8301	SCR PAN+SW 2.3X10
61	143-0-741T-64122	LEVER ASSY
62	143-2-851T-89000	SPRING COIL
63	143-2-581T-15200	GEAR
64	143-2-581T-16400	GEAR
65	143-2-851T-90700	SPRING COIL
66	143-0-741T-64222	LEVER ASSY
68	143-2-445T-21300	RUBBER CUSHION
69	412 021 7102	SPECIAL WASHER
or	412 021 8901	SPECIAL WASHER
70	143-2-352T-23500	SPACER
71	411 000 9908	RING E 3
72	143-2-681T-21100	SLEEVE
73	143-2-352T-23300	SPACER
77	412 015 9600	SPECIAL WASHER
78	143-0-741T-66000	LEVER ASSY
79	143-0-741T-66100	LEVER ASSY
80	143-2-851T-91200	SPRING COIL
81	143-2-851T-90800	SPRING COIL
82	143-2-581T-16500	GEAR
83	143-2-352T-24700	SPACER
84	143-0-741T-65900	LEVER ASSY
85	143-2-851T-92400	SPRING COIL
86	412 023 2006	WASHER F 3X9.5X0.5
87	411 047 5307	SCR PAN+FLG 3X10
or	411 047 8100	SCR PAN+FLG 3X8



MECHANISM PARTS 3

Ref No.	Part No.	Description
1	143-2-741T-62501	LEVER
2	143-2-851T-88800	SPRING COIL
3	143-0-741T-65100	LEVER ASSY
4	143-2-851T-92600	SPRING COIL
5	143-2-712T-05301	BRAKE SHOE
6	143-0-741T-65800	LEVER ASSY
7	143-2-851T-91100	SPRING COIL
8	412 021 4903	SPECIAL WASHER
9	412 015 9600	SPECIAL WASHER
10	143-0-581T-15000	GEAR ASSY
11	412 012 7708	SPECIAL WASHER
or	412 015 8504	SPECIAL WASHER
12	143-0-741T-65600	LEVER ASSY
13	412 015 9501	SPECIAL WASHER
14	143-0-741T-65700	LEVER ASSY
15	143-0-741T-62921	LEVER ASSY
16	143-2-851T-87500	SPRING COIL
17	412 015 8504	SPECIAL WASHER
18	412 021 4903	SPECIAL WASHER 0.6T
19	412 021 6105	SPECIAL WASHER
20	143-0-731T-16300	SLIDE ASSY
21	143-2-681T-19800	SLEEVE
22	143-0-731T-16400	SLIDE ASSY
23	412 023 1801	WASHER F 3.2X10X0.5
24	143-2-851T-87400	SPRING COIL
25	4-231V-87400	SPECIAL SWITCH
26	411 036 2805	SCR PAN+SW+W 2.6X6
27	411 024 4101	SCR S-TPG PAN+FLG 2.6X6
28	143-0-581T-14300	GEAR ASSY
29	143-2-581T-16100	GEAR
30	143-2-741T-63600	LEVER
32	143-2-564T-05001	BELT REEL DRIVE
33	4-527V-54301	BRUSHLESS MOTOR
34	411 023 4003	SCR S-TPG PAN 3X10
35	143-2-210T-09600	BRACKET
36	143-0-233V-26750	MC2 ASSY
37	143-0-731T-16600	SLIDE ASSY
38	143-2-581T-16000	GEAR
39	143-2-581T-14600	GEAR
40	143-2-581T-14500	GEAR
41	143-2-564T-04900	BELT TAPE LOADING
42	143-0-581T-14400	GEAR ASSY
43	412 012 7708	SPECIAL WASHER
44	143-2-681T-19900	SLEEVE
45	411 045 6702	SCR PAN+SW 3X8
46	143-0-351T-77200	BRACKET MTG ASSY
47	411 024 4309	SCR S-TPG PAN+FLG 2.6X8
48	143-2-351T-79600	BRACKET MTG
49	143-0-581T-16300	GEAR ASSY
50	412 012 8309	SPECIAL WASHER
51	143-2-581T-14700	GEAR
52	411 023 9800	SCR S-TPG PAN 3X8
53	143-0-233V-26621	MC1 ASSY
54	411 047 6809	SCR PAN+FLG 3X4
56	143-0-581T-14001	GEAR ASSY
57	143-0-741T-62800	LEVER ASSY
58	143-2-851T-87300	SPRING COIL
60	143-0-581T-13801	GEAR ASSY
61	143-2-324T-01000	EARTH PLATE
73	143-2-310T-09300	BRACKET
75	411 102 9905	WASHER Y 3.2X8X1



ELECTRICAL PARTS

NOTE:

* Materials of Capacitors are abbreviated as follows;

ALUMINUM	Aluminum Electrolytic Capacitor
BC CON	Barrier Layer Ceramic Capacitor
CERAMIC	Ceramic Capacitor
EDL	Electric Double Layer Capacitor
ELECT	Electrolytic Capacitor
MYLAR	Mylar Film Capacitor
NON POLARIZED	Non Polarized Electrolytic Capacitor
POLYPRO	Polypropylene Capacitor

* Tolerance of Capacitor, Resistors and Other parts are noted with follow symboles;

A ....+75-10%
F...................±1%
G ....±2%
J....................±5%
K ....±10%
M..................±20%
N ....±30%
P ....+100-0%
Z ....+80-20%

VD-1 BOARD (VIDEO)
NO.143-0-233V-62000(FVH-D40HV)
NO.143-0-233V-62030(FVH-D40S)

Location	Part No.	Description
	143-2-377T-22300	TERMINAL BOARD
	143-2-143T-91500	PLATE,TERMINAL
	143-2-143T-81900	PLATE,RF CONVERTER
	143-2-464T-07700	FIXER,VD-1 BOARD
	143-2-143T-91900	MARKING PLATE,REMOTE
		(COMPOSITE)
B1021	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1022	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1201	405 018 2600	TR 2SC3400
or	405 001 0309	TR RN1203
B1202	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1301	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1401	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1402	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1403	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1404	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B1501	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
		(CAPACITORS)
C1001	403 004 1002	CERAMIC 0.047MF M 25V
C1002	403 039 2104	ELECT 47MF M 6.3V
C1003	403 014 2600	CERAMIC 18PF J 50V
C1004	403 046 9905	ELECT 4.7MF M 25V
C1005	403 030 6309	CERAMIC 68PF J 50V
C1006	403 073 6205	CERAMIC 470PF J 50V
C1007	403 068 8801	CERAMIC 100PF J 50V
C1009	403 074 8703	CERAMIC 680PF J 50V
C1010	403 014 2600	CERAMIC 18PF J 50V
C1011	403 046 9905	ELECT 4.7MF M 25V
C1014	403 049 9803	ELECT 2.2MF M 50V
C1015	403 050 0202	ELECT 2.2MF M 50V
C1016	403 004 1002	CERAMIC 0.047MF M 25V
C1017	403 039 2104	ELECT 47MF M 6.3V
C1018	403 046 9905	ELECT 4.7MF M 25V
C1019	403 046 9905	ELECT 4.7MF M 25V
C1020	403 043 3906	ELECT 33MF M 16V
C1021	403 001 1906	CERAMIC 0.01MF M 16V
C1023	403 001 1906	CERAMIC 0.01MF M 16V
C1024	403 049 0008	ELECT 1MF M 50V
C1025	403 012 6006	CERAMIC 15PF J 50V
C1031	403 001 1906	CERAMIC 0.01MF M 16V
C1101	403 041 8804	ELECT 10MF M 16V
C1102	403 046 9905	ELECT 4.7MF M 25V
C1103	403 041 8804	ELECT 10MF M 16V
C1104	403 001 1906	CERAMIC 0.01MF M 16V
C1105	403 001 1906	CERAMIC 0.01MF M 16V
C1106	403 001 1906	CERAMIC 0.01MF M 16V
C1107	403 041 2109	ELECT 47MF M 10V
C1108	403 004 1002	CERAMIC 0.047MF M 25V
C1109	403 039 2104	ELECT 47MF M 6.3V
C1201	403 049 0008	ELECT 1MF M 50V
C1202	403 070 3702	CERAMIC 120PF J 50V
C1203	403 070 3702	CERAMIC 120PF J 50V
C1204	403 001 1906	CERAMIC 0.01MF M 16V
C1206	403 012 6006	CERAMIC 15PF J 50V
C1207	403 039 2104	ELECT 47MF M 6.3V
C1208	403 004 1002	CERAMIC 0.047MF M 25V
C1210	403 049 0008	ELECT 1MF M 50V
C1211	403 049 0008	ELECT 1MF M 50V
C1212	403 059 6007	POLYESTER 0.022MF K 50V
C1213	403 049 0008	ELECT 1MF M 50V
C1214	403 049 0008	ELECT 1MF M 50V
C1215	403 049 0008	ELECT 1MF M 50V
C1216	403 039 2104	ELECT 47MF M 6.3V
C1217	403 019 9703	CERAMIC 27PF J 50V
C1218	403 073 6205	CERAMIC 470PF J 50V
C1219	403 001 1906	CERAMIC 0.01MF M 16V
C1220	403 001 1906	CERAMIC 0.01MF M 16V
C1221	403 001 1906	CERAMIC 0.01MF M 16V
C1222	403 001 1906	CERAMIC 0.01MF M 16V
C1223	403 001 1906	CERAMIC 0.01MF M 16V
C1301	403 041 8804	ELECT 10MF M 16V
C1302	403 039 2104	ELECT 47MF M 6.3V
C1303	403 143 2809	CERAMIC 0.047MF Z 50V
C1304	403 001 1906	CERAMIC 0.01MF M 16V
C1305	403 041 8804	ELECT 10MF M 16V
C1306	403 001 1906	CERAMIC 0.01MF M 16V
C1401	403 043 9106	ELECT 47MF M 16V
C1402	403 043 9106	ELECT 47MF M 16V
C1403	403 043 9106	ELECT 47MF M 16V
C1404	403 043 9106	ELECT 47MF M 16V
C1405	403 043 9106	ELECT 47MF M 16V
C1406	403 043 9106	ELECT 47MF M 16V
C1501	403 049 0008	ELECT 1MF M 50V
C1502	403 039 2104	ELECT 47MF M 6.3V
C1503	403 040 1707	ELECT 22MF M 10V
C1504	403 038 9708	ELECT 330MF M 6.3V
C1505	403 043 9106	ELECT 47MF M 16V
C1506	403 039 3507	ELECT 470MF M 6.3V
C1507	403 004 1002	CERAMIC 0.047MF M 25V
C1508	403 043 9106	ELECT 47MF M 16V
C1509	403 039 2104	ELECT 47MF M 6.3V
C1510	403 001 1906	CERAMIC 0.01MF M 16V
C1511	403 038 1603	ELECT 100MF M 6.3V
C1514	403 039 2104	ELECT 47MF M 6.3V
C1515	403 039 2104	ELECT 47MF M 6.3V
C1517	403 038 1603	ELECT 100MF M 6.3V
C1518	403 001 1906	CERAMIC 0.01MF M 16V

Location	Part No.	Description
C1519	403 070 7809	CERAMIC 150PF K 50V(FVH-D40HV ONLY)
C1520	403 001 6505	CERAMIC 3300PF K 16V
C1521	403 121 9509	CERAMIC 0.1MF Z 50V
C1522	403 039 2104	ELECT 47MF M 6.3V
		(DIODES)
D1101	407 070 8408	ZENER DIODE GZS9.1Y-TB
or	407 053 8906	ZENER DIODE MTZ9.1C-T-77
D1301	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1302	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1401	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1402	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1403	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1404	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1501	407 004 9709	DIODE DSK10C
or	407 005 8701	DIODE ERA15-02A
D1502	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1503	407 051 6607	ZENER DIODE GZS5.1X-BT
or	407 053 6308	ZENER DIODE MTZ5.1B-T-77
D1504	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1505	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1506	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1507	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1508	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1509	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D1510	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
		(INTEGRATED CIRCUITS)
IC1101	409 111 9702	IC MSM6965-3RS
IC1301	409 003 4907	IC BA7025L
IC1401	409 018 7603	IC LA7016
IC1402	409 018 7603	IC LA7016
IC1501	409 003 4501	IC BA7021
		(COILS)
L1001	4–253V–97125	HF CHOKE 100UH K
L1002	4–253V–97011	HF CHOKE 68UH J
L1003	4–253V–97004	HF CHOKE 18UH J
L1004	4–253V–97123	HF CHOKE 68UH K
L1005	4–253V–97125	HF CHOKE 100UH K
L1006	4–253V–97125	HF CHOKE 100UH K
L1007	4–253V–97124	HF CHOKE 82UH K
L1008	4–253V–74320	HF CHOKE 10UH K
L1101	4–253V–97125	HF CHOKE 100UH K
L1201	4–253V–97015	HF CHOKE 150UH J
L1202	4–253V–97001	HF CHOKE 10UH J
L1203	4–253V–97006	HF CHOKE 27UH J
L1204	4–253V–97125	HF CHOKE 100UH K
L1205	4–253V–97003	HF CHOKE 15UH J
L1401	4–253V–97125	HF CHOKE 100UH K
L1402	4–253V–97125	HF CHOKE 100UH K
L1501	4–253V–97125	HF CHOKE 100UH K
L1502	4–253V–97125	HF CHOKE 100UH K
L1503	4–253V–74308	HF CHOKE 1.0UH M
		(TRANSISTORS)
Q1001	405 004 4007	TR 2SA608-E-SPA
or	405 006 1707	TR 2SA933S-Q
Q1101	405 016 0905	TR 2SC2839-E-SPA
or	405 015 2504	TR 2SC2669 O
Q1102	405 004 4007	TR 2SA608-E-SPA
or	405 006 1707	TR 2SA933S-Q
Q1201	405 004 4007	TR 2SA608-E-SPA
or	405 006 1707	TR 2SA933S-Q
Q1202	405 019 2005	TR 2SC536-E-SPA
or	405 011 8401	TR 2SC1740S-Q
Q1203	405 019 2005	TR 2SC536-E-SPA
or	405 011 8401	TR 2SC1740S-Q
Q1401	405 004 4007	TR 2SA608-E-SPA
or	405 006 1707	TR 2SA933S-Q
Q1402	405 004 4007	TR 2SA608-E-SPA
or	405 006 1707	TR 2SA933S-Q
Q1501	405 006 6504	TR 2SA984-E
or	405 006 6702	TR 2SA984-F
Q1502	405 006 6504	TR 2SA984-E
or	405 006 6702	TR 2SA984-F
Q1503	405 043 6000	TR 2SC3807
Q1504	405 006 6504	TR 2SA984-E
or	405 006 6702	TR 2SA984-F
Q1505	405 019 2708	TR 2SC536-F-NP
or	405 019 1909	TR 2SC536-E-NP
Q1506	405 009 7003	TR 2SB985-T
Q1507	405 019 3804	TR 2SC536-G-NP
or	405 019 2708	TR 2SC536-F-NP
Q1508	405 006 6702	TR 2SA984-F
Q1509	405 004 4007	TR 2SA608-E-SPA
or	405 006 1707	TR 2SA933S-Q
Q1510	405 016 0905	TR 2SC2839-E-SPA
or	405 015 2504	TR 2SC2669 O
Q1511	405 004 4007	TR 2SA608-E-SPA
or	405 006 1707	TR 2SA933S-Q
Q1572	405 019 2708	TR 2SC536-F-NP
or	405 019 1909	TR 2SC536-E-NP
		(RESISTORS)
R1001	401 015 2605	CARBON 1.8K JA 1/4W
R1002	401 015 2605	CARBON 1.8K JA 1/4W
R1003	401 014 4006	CARBON 1.5K JA 1/4W
R1004	401 013 5202	CARBON 1.2K JA 1/4W
R1005	401 021 2903	CARBON 5.6K JA 1/4W
R1006	401 020 7800	CARBON 510 JA 1/4W
R1007	401 022 1806	CARBON 680 JA 1/4W
R1008	401 012 5609	CARBON 1K JA 1/4W
R1009	401 018 3708	CARBON 3.3K JA 1/4W
R1010	401 023 2703	CARBON 8.2K JA 1/4W
R1011	401 016 6404	CARBON 2.2M JA 1/4W
R1013	401 012 5609	CARBON 1K JA 1/4W
R1014	401 012 5609	CARBON 1K JA 1/4W
R1015	401 012 5609	CARBON 1K JA 1/4W
R1016	401 012 6903	CARBON 10K JA 1/4W
R1021	401 012 6903	CARBON 10K JA 1/4W
R1101	401 022 7105	CARBON 750 JA 1/4W
R1102	401 019 7200	CARBON 430 JA 1/4W
R1103	401 015 2605	CARBON 1.8K JA 1/4W
R1104	401 023 2703	CARBON 8.2K JA 1/4W
R1105	401 017 9206	CARBON 3K JA 1/4W
R1106	401 012 4404	CARBON 100 JA 1/4W
R1107	401 013 4106	CARBON 120 JA 1/4W
R1108	401 012 5609	CARBON 1K JA 1/4W
R1109	401 021 1807	CARBON 560 JA 1/4W
R1201	401 012 5609	CARBON 1K JA 1/4W
R1202	401 012 5609	CARBON 1K JA 1/4W
R1203	401 021 2903	CARBON 5.6K JA 1/4W
R1204	401 012 5609	CARBON 1K JA 1/4W
R1205	401 020 0702	CARBON 470 JA 1/4W
R1206	401 014 4006	CARBON 1.5K JA 1/4W
R1207	401 019 7200	CARBON 430 JA 1/4W
R1208	401 018 4804	CARBON 33K JA 1/4W
R1209	401 015 9406	CARBON 2K JA 1/4W
R1210	401 020 0702	CARBON 470 JA 1/4W
R1211	401 014 4006	CARBON 1.5K JA 1/4W
R1212	401 013 6308	CARBON 12K JA 1/4W
R1213	401 022 1806	CARBON 680 JA 1/4W
R1214	401 012 4404	CARBON 100 JA 1/4W

Location	Part No.	Description
R1215	401 013 4106	CARBON 120 JA 1/4W
R1216	401 012 5609	CARBON 1K JA 1/4W
R1301	401 021 2903	CARBON 5.6K JA 1/4W
R1302	401 014 6000	CARBON 150K JA 1/4W
R1303	401 016 3700	CARBON 2.2K JA 1/4W
R1304	401 019 0904	CARBON 390 JA 1/4W
R1305	401 016 4707	CARBON 22K JA 1/4W
R1306	401 016 4707	CARBON 22K JA 1/4W
R1307	401 012 5609	CARBON 1K JA 1/4W
R1309	401 012 6903	CARBON 10K JA 1/4W
R1310	401 016 4707	CARBON 22K JA 1/4W
R1311	401 016 4707	CARBON 22K JA 1/4W
R1401	401 012 5609	CARBON 1K JA 1/4W
R1402	401 020 1907	CARBON 4.7K JA 1/4W
R1403	401 012 6903	CARBON 10K JA 1/4W
R1404	401 012 5609	CARBON 1K JA 1/4W
R1405	401 016 4707	CARBON 22K JA 1/4W
R1406	401 017 1705	CARBON 2.7K JA 1/4W
R1407	401 017 1705	CARBON 2.7K JA 1/4W
R1408	401 021 2903	CARBON 5.6K JA 1/4W
R1409	401 022 7600	CARBON 7.5K JA 1/4W
R1410	401 012 5609	CARBON 1K JA 1/4W
R1411	401 012 4404	CARBON 100 JA 1/4W
R1412	401 022 1806	CARBON 680 JA 1/4W
R1501	401 016 3700	CARBON 2.2K JA 1/4W
R1502	401 017 1705	CARBON 2.7K JA 1/4W
R1503	401 017 1705	CARBON 2.7K JA 1/4W
R1504	401 020 1907	CARBON 4.7K JA 1/4W
R1505	401 019 7200	CARBON 430 JA 1/4W
R1506	401 022 3008	CARBON 6.8K JA 1/4W
R1507	401 021 1807	CARBON 560 JA 1/4W
R1508	401 020 1907	CARBON 4.7K JA 1/4W
R1509	401 020 1907	CARBON 4.7K JA 1/4W
R1510	401 020 1907	CARBON 4.7K JA 1/4W
R1511	401 022 4005	CARBON 68K JA 1/4W
R1512	401 016 2505	CARBON 220 JA 1/4W
R1513	401 015 2605	CARBON 1.8K JA 1/4W
R1514	401 012 6903	CARBON 10K JA 1/4W
R1515	401 012 6903	CARBON 10K JA 1/4W
R1516	401 015 2605	CARBON 1.8K JA 1/4W
R1517	401 012 5609	CARBON 1K JA 1/4W
R1518	401 021 1807	CARBON 560 JA 1/4W
R1519	401 022 0700	CARBON 68 JA 1/4W
R1520	401 022 6702	CARBON 75 JA 1/4W
R1521	401 017 1705	CARBON 2.7K JA 1/4W
R1522	401 017 1705	CARBON 2.7K JA 1/4W
R1523	401 016 4707	CARBON 22K JA 1/4W
R1524	401 020 1907	CARBON 4.7K JA 1/4W
R1525	401 020 2805	CARBON 47K JA 1/4W
R1526	401 020 2805	CARBON 47K JA 1/4W
R1527	401 012 6903	CARBON 10K JA 1/4W
R1528	401 012 6903	CARBON 10K JA 1/4W
R1529	401 021 0602	CARBON 56 JA 1/4W
R1530	401 021 2903	CARBON 5.6K JA 1/4W
R1531	401 021 2903	CARBON 5.6K JA 1/4W
R1532	401 016 4707	CARBON 22K JA 1/4W
R1533	401 023 1607	CARBON 820 JA 1/4W
R1535	401 023 1607	CARBON 820 JA 1/4W
R1536	401 015 2605	CARBON 1.8K JA 1/4W
R1539	401 018 7904	CARBON 3.6K JA 1/4W
R1540	401 014 8509	CARBON 1.6K JA 1/4W
R1541	401 022 7105	CARBON 750 JA 1/4W
R1542	401 017 1705	CARBON 2.7K JA 1/4W
R1545	401 013 6308	CARBON 12K JA 1/4W
R1546	401 021 2903	CARBON 5.6K JA 1/4W
R1576	401 020 2805	CARBON 47K JA 1/4W
R1577	401 020 2805	CARBON 47K JA 1/4W
		(SEMI VARIABLE RESISTORS)
SVR1001	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
SVR1102	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
SVR1201	4–222V–69103	SEMI VR 1K OHM

Location	Part No.	Description
SVR1201	4–222V–68906	SEMI VR 1K OHM
SVR1202	4–222V–69110	SEMI VR 50K OHM
or	4–222V–68916	SEMI VR 47K OHM
SVR1502	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
		(TRANSFORMER)
T1301	4–255V–11800	CHOKE COIL
		(MISCELLANEOUS)
CF1301	4–953V–07400	FILTER
DL1201	4–284V–19400	DELAY LINE
DL1501	4–228V–16100	LC PACK
F1001	4–228V–21200	LC PACK 4MHZ
F1101	4–953V–28700	FILTER
F1201	4–228V–20700	LC PACK
F1202	4–953V–23000	FILTER 1.4MHZ
F1501	4–234V–18309	FUSE 315MA 250V
F1502	4–953V–33811	FILTER(FVH-D40HV ONLY)
F1503	4–953V–33813	FILTER(FVH-D40HV ONLY)
HIC1001	409 128 8200	IC EHM-X4672U97
HIC1201	409 145 2700	IC BX7507-1
X1201	4–225V–18400	CRYSTAL 4.433619MHZ
or	4–225V–19000	CRYSTAL 4.433619MHZ

VD-1 BOARD (TUNER)
NO.143-0-233V-62000(FVH-D40HV)
NO.143-0-233V-62030(FVH-D40S)

Location	Part No.	Description
		(COMPOSITE)
B6080	405 018 2501	TR 2SC3399
		(CAPACITORS)
C6080	403 046 9905	ELECT 4.7MF M 25V
C6081	403 067 5603	MT-COMPO 0.1MF J 50V
or	403 065 8002	MT-POLYEST 0.1MF J 63V
C6082	403 049 0008	ELECT 1MF M 50V
C6083	403 046 9905	ELECT 4.7MF M 25V
C6085	403 038 1603	ELECT 100MF M 6.3V
C6087	403 121 9509	CERAMIC 0.1MF Z 50V
		(DIODES)
D6081	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D6082	407 051 6706	ZENER DIODE GZS5.1Y
or	407 051 6805	ZENER DIODE GZS5.1Z-BT
or	407 053 6308	ZENER DIODE MTZ5.1B-T-77
or	407 053 6407	ZENER DIODE MTZ5.1C
D6084	407 004 9709	DIODE DSK10C
or	407 005 8701	DIODE ERA15-02A
D6085	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
		(COILS)
L6084	4–253V–74308	HF CHOKE 1.0UH M(FVH-D40HV)
or	4–253V–74320	HF CHOKE 10UH K(FVH-D40S)
L6086	4–253V–78812	HF CHOKE 100UH K
		(TRANSISTORS)
Q6080	405 019 2708	TR 2SC536-F-NP
or	405 019 1909	TR 2SC536-E-NP
		(RESISTORS)
R6080	401 012 5609	CARBON 1K JA 1/4W
R6081	401 018 4804	CARBON 33K JA 1/4W
R6084	401 017 8506	CARBON 300 JA 1/4W

VP-1 BOARD (VIDEO PRE-AMP)
NO.143-0-233V-47524

Location	Part No.	Description
		(CAPACITORS)
C1601	403 114 3101	CERAMIC 1MF Z 16V
C1602	403 074 3104	CERAMIC 0.047MF Z 50V
C1603	403 014 3409	CERAMIC 18PF J 50V
C1604	403 074 3104	CERAMIC 0.047MF Z 50V
C1605	403 014 3409	CERAMIC 18PF J 50V
C1606	403 114 3101	CERAMIC 1MF Z 16V
C1607	403 069 5601	CERAMIC 0.01MF K 50V
C1608	403 069 5601	CERAMIC 0.01MF K 50V
C1609	403 039 3101	ELECT 47MF M 6.3V
C1610	403 114 3101	CERAMIC 1MF Z 16V
C1611	403 014 9302	CERAMIC 180PF J 50V
C1612	403 012 6808	CERAMIC 15PF J 50V
C1614	403 102 8705	CERAMIC 10PF J 50V
C1615	403 069 5601	CERAMIC 0.01MF K 50V
C1616	403 069 5601	CERAMIC 0.01MF K 50V
C1617	403 069 5601	CERAMIC 0.01MF K 50V
C1618	403 043 9700	ELECT 47MF M 16V
C1619	403 069 5601	CERAMIC 0.01MF K 50V
C1620	403 069 5601	CERAMIC 0.01MF K 50V
C1622	403 010 1102	CERAMIC 1000PF J 50V
		(INTEGRATED CIRCUIT)
IC1601	409 117 9706	IC AN3331K
		(COILS)
L1601	4–253V–76132	HF CHOKE 100UH J
L1602	4–253V–74317	HF CHOKE 5.6UH K
L1603	4–253V–74422	HF CHOKE 15UH J
L1604	4–253V–74324	HF CHOKE 22UH K
L1605	4–253V–76132	HF CHOKE 100UH J
		(TRANSISTORS)
Q1601	405 015 9701	TR 2SC2814-F4-TB
Q1602	405 015 9701	TR 2SC2814-F4-TB
		(RESISTORS)
R1601	401 038 5508	MT-GLAZE 4.7 JA 1/10W
R1602	401 038 7601	MT-GLAZE 560 JA 1/10W
R1603	401 038 7601	MT-GLAZE 560 JA 1/10W
R1604	401 038 9001	MT-GLAZE 680 JA 1/10W
R1605	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R1606	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R1607	401 039 0304	MT-GLAZE 820 JA 1/10W
R1608	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R1609	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R1610	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R1611	401 035 4900	MT-GLAZE 1K JA 1/8W
R1613	401 038 7601	MT-GLAZE 560 JA 1/10W
R1651	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1652	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1653	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1654	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1655	401 037 5004	MT-GLAZE 0.000 ZA 1/10W

AD-1 BOARD (AUDIO)
NO.143-0-233V-62600(FVH-D40HV)
NO.143-0-233V-62621(FVH-D40S)

Location	Part No.	Description
		(CAPACITORS)
C2001	403 049 0008	ELECT 1MF M 50V
C2002	403 075 4308	CERAMIC 820PF K 50V
C2004	403 038 8602	ELECT 33MF M 6.3V
C2005	403 003 0600	CERAMIC 0.018MF K 25V
C2006	403 048 6308	ELECT 0.47MF M 50V
C2007	403 003 7807	CERAMIC 3900PF K 25V
C2008	403 003 5704	CERAMIC 3300PF K 25V
C2009	403 039 2104	ELECT 47MF M 6.3V
C2010	403 040 1707	ELECT 22MF M 10V
C2013	403 003 2406	CERAMIC 0.022MF J 25V
C2015	403 046 9905	ELECT 4.7MF M 25V
C2016	403 049 0008	ELECT 1MF M 50V
C2017	403 042 7707	ELECT 22MF M 16V
C2018	403 046 1602	ELECT 3.3MF M 25V
C2019	403 042 2405	ELECT 100MF M 16V
C2020	403 018 6208	CERAMIC 220PF J 50V
C2021	403 081 7409	POLYPRO 0.033MF J 100V
C2022	403 002 1905	CERAMIC 0.01MF K 25V
C2024	403 002 1905	CERAMIC 0.01MF K 25V
C2030	403 049 0008	ELECT 1MF M 50V
C2031	403 049 0008	ELECT 1MF M 50V
C2032	403 050 6600	ELECT 3.3MF M 50V
C2033	403 043 3906	ELECT 33MF M 16V
C2034	403 049 0008	ELECT 1MF M 50V
C2042	403 039 2104	ELECT 47MF M 6.3V
C2051	403 069 0705	CERAMIC 1000PF K 50V
C2052	403 070 8608	CERAMIC 1500PF K 50V(FVH-D40HV ONLY)
C2053	403 068 9006	CERAMIC 100PF K 50V(FVH-D40HV ONLY)
C2054	403 068 9006	CERAMIC 100PF K 50V(FVH-D40HV ONLY)
C2056	403 002 1905	CERAMIC 0.01MF K 25V
		(DIODES)
D2001	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D2002	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D2003	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D2040	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D2041	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
		(INTEGRATED CIRCUITS)
IC2001	409 133 1401	IC LA7294
IC2002	409 018 7603	IC LA7016
		(COILS)
L2001	4–253V–95801	HF CHOKE 27MH
L2002	4–253V–76249	HF CHOKE 10MH J
L2003	4–255V–11900	CHOKE COIL
L2051	4–471V–11500	CORE(FVH-D40HV ONLY)
L2052	4–471V–11500	CORE(FVH-D40HV ONLY)
L2053	4–253V–97628	HF CHOKE 560UH K(FVH-D40HV ONLY)
		(TRANSISTORS)
Q2001	405 024 9709	TR 2SD734-E
or	405 024 9907	TR 2SD734-F
Q2040	405 019 1909	TR 2SC536-E-NP
or	405 019 2708	TR 2SC536-F-NP
Q2041	405 019 1909	TR 2SC536-E-NP
or	405 019 2708	TR 2SC536-F-NP
Q2042	405 019 1909	TR 2SC536-E-NP
or	405 019 2708	TR 2SC536-F-NP
Q2043	405 019 1909	TR 2SC536-E-NP
or	405 019 2708	TR 2SC536-F-NP
Q2061	405 019 1909	TR 2SC536-E-NP
or	405 019 2708	TR 2SC536-F-NP
		(RESISTORS)
R2001	401 012 4404	CARBON 100 JA 1/4W
R2002	401 022 3008	CARBON 6.8K JA 1/4W
R2003	401 013 4106	CARBON 120 JA 1/4W
R2004	401 019 3905	CARBON 390K JA 1/4W
R2005	401 021 8905	CARBON 6.2K JA 1/4W
R2006	401 017 1705	CARBON 2.7K JA 1/4W

Location	Part No.	Description
R2007	401 013 9408	CARBON 1.3K JA 1/4W
R2008	401 018 7904	CARBON 3.6K JA 1/4W
R2009	401 018 6501	CARBON 3.3M JA 1/4W
R2010	401 012 6903	CARBON 10K JA 1/4W
R2011	401 023 7401	CARBON 9.1K JA 1/4W
R2012	401 019 7705	CARBON 4.3K JA 1/4W
R2013	401 012 5609	CARBON 1K JA 1/4W
R2014	401 015 2605	CARBON 1.8K JA 1/4W
R2015	401 016 5704	CARBON 220K JA 1/4W
R2016	401 012 6903	CARBON 10K JA 1/4W
R2017	401 014 5102	CARBON 15K JA 1/4W
R2018	401 105 3701	CARBON 18K JA 1/4W
R2019	401 016 4707	CARBON 22K JA 1/4W
R2021	401 012 3308	CARBON 10 JA 1/4W
R2022	401 019 9501	CARBON 47 JA 1/4W
R2023	401 014 5102	CARBON 15K JA 1/4W
R2024	401 019 6104	CARBON 4.7 JA 1/4W
R2030	401 020 2805	CARBON 47K JA 1/4W
R2031	401 021 4006	CARBON 56K JA 1/4W
R2032	401 018 8307	CARBON 36K JA 1/4W
R2034	401 012 4404	CARBON 100 JA 1/4W
R2035	401 016 5704	CARBON 220K JA 1/4W
R2040	401 012 6903	CARBON 10K JA 1/4W
R2041	401 020 2805	CARBON 47K JA 1/4W
R2042	401 020 2805	CARBON 47K JA 1/4W
R2043	401 022 7600	CARBON 7.5K JA 1/4W
R2044	401 016 4707	CARBON 22K JA 1/4W
R2045	401 020 2805	CARBON 47K JA 1/4W
R2046	401 020 1907	CARBON 4.7K JA 1/4W
R2047	401 020 2805	CARBON 47K JA 1/4W
R2048	401 020 2805	CARBON 47K JA 1/4W
R2049	401 020 2805	CARBON 47K JA 1/4W
R2050	401 020 2805	CARBON 47K JA 1/4W
R2061	401 020 2805	CARBON 47K JA 1/4W
R2062	401 020 2805	CARBON 47K JA 1/4W
R2063	401 019 1802	CARBON 3.9K JA 1/4W
R2064	401 020 1907	CARBON 4.7K JA 1/4W
		(SEMI VARIABLE RESISTORS)
SVR2001	4–222V–70211	SEMI VR 100K OHM
SVR2002	4–222V–70207	SEMI VR 10K OHM
		(TRANSFORMER)
T2001	4–258V–19340	OSC COIL

SY-1 BOARD (SYSTEM CONTROL)
NO.143-0-233V-64423

Location	Part No.	Description
		(COMPOSITE)
B3001	405 063 9708	TR DTC144EL-TL2
B3002	405 063 9708	TR DTC144EL-TL2
B3003	405 063 9708	TR DTC144EL-TL2
B3007	405 063 9708	TR DTC144EL-TL2
B3010	4–956V–10303	R-PACK 10K OHMX3 J
B3011	4–956V–10303	R-PACK 10K OHMX3 J
B3012	4–956V–10304	R-PACK 10K OHMX4 J
B3013	4–956V–10305	R-PACK 10K OHMX5 J
B3014	4–956V–10307	R-PACK 10K OHMX7 J
B3015	4–956V–47207	R-PACK 4.7K OHMX7 J
		(CAPACITORS)
C3001	403 022 2005	CERAMIC 30PF J 50V
C3002	403 022 2005	CERAMIC 30PF J 50V
C3003	403 048 7107	ELECT 0.47MF M 50V
C3004	403 022 2005	CERAMIC 30PF J 50V
C3006	403 038 2105	ELECT 100MF M 6.3V
C3007	403 121 9509	CERAMIC 0.1MF Z 50V
C3008	403 068 8801	CERAMIC 100PF J 50V
C3009	403 068 8801	CERAMIC 100PF J 50V
C3011	403 050 0707	ELECT 2.2MF M 50V
C3012	403 110 0609	NP-ELECT 10MF M 50V
or	403 085 7405	NP-ELECT 10MF M 25V
C3013	403 002 2506	CERAMIC 0.01MF M 25V
C3014	403 121 9509	CERAMIC 0.1MF Z 50V
C3015	403 121 9509	CERAMIC 0.1MF Z 50V
C3016	403 121 9509	CERAMIC 0.1MF Z 50V
C3017	403 043 4507	ELECT 33MF M 16V
C3019	403 121 9509	CERAMIC 0.1MF Z 50V
C3020	403 022 2005	CERAMIC 30PF J 50V
C3021	403 022 2005	CERAMIC 30PF J 50V
C3022	403 121 9509	CERAMIC 0.1MF Z 50V
C3023	403 068 8801	CERAMIC 100PF J 50V
C3024	403 121 9509	CERAMIC 0.1MF Z 50V
C3025	403 121 9509	CERAMIC 0.1MF Z 50V
C3026	403 038 2105	ELECT 100MF M 6.3V
C3027	403 069 1207	CERAMIC 1000PF K 50V
C3028	403 071 6207	CERAMIC 220PF K 50V
C3029	403 071 6207	CERAMIC 220PF K 50V
C3050	403 022 7703	CERAMIC 33PF J 50V
C3051	403 022 7703	CERAMIC 33PF J 50V
C3052	403 121 9509	CERAMIC 0.1MF Z 50V
C3053	403 121 9509	CERAMIC 0.1MF Z 50V
C3054	403 121 9509	CERAMIC 0.1MF Z 50V
C3055	403 121 9509	CERAMIC 0.1MF Z 50V
C3056	403 121 9509	CERAMIC 0.1MF Z 50V
		(DIODES)
D3002	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D3003	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D3007	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D3008	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D3009	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D3011	407 050 3805	ZENER DIODE GZA4.7Z
or	407 059 0706	ZENER DIODE 05Z4.7Z
D3012	407 050 6202	ZENER DIODE GZA6.2Y
or	407 059 1802	ZENER DIODE 05Z6.2Y
D3013	407 050 7902	ZENER DIODE GZA9.1Z
D3015	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D3016	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
		(INTEGRATED CIRCUITS)
IC3001	410 038 0703	IC HD4074418S-D2
or	410 038 0802	IC HD404418SM60
or	410 039 5103	IC HD404418SM61
IC3002	410 028 3301	IC TMS70C20-28C71022
IC3003	409 114 4803	IC LB1641
or	409 111 9405	IC BA6209N
IC3004	409 018 3902	IC LA6393D
or	409 057 3406	IC UPC393C
IC3005	409 138 3202	IC LC6521H-3557
or	409 141 2704	IC LC6521H-3580
IC3006	409 133 3504	IC LC9105B-132
IC3007	409 032 3704	IC MN1280-R
or	409 032 3803	IC MN1280-S
		(COIL)
L3001	4–253V–97125	HF CHOKE 100UH K
		(TRANSISTORS)
Q3001	405 057 6409	TR 2SC4038-R-TL2
Q3002	405 057 6409	TR 2SC4038-R-TL2
Q3004	405 057 6409	TR 2SC4038-R-TL2
Q3005	405 006 6504	TR 2SA984-E
or	405 006 7006	TR 2SA984K-E
Q3006	405 057 6409	TR 2SC4038-R-TL2

Location	Part No.	Description
		(RESISTORS)
R3001	401 024 8001	CARBON 1M JA 1/6W
R3002	401 024 7400	CARBON 10K JA 1/6W
R3003	401 024 6700	CARBON 100 JA 1/6W
R3004	401 026 4902	CARBON 330K JA 1/6W
R3005	401 025 2305	CARBON 150K JA 1/6W
R3006	401 027 6905	CARBON 750 JA 1/6W
R3007	401 026 9204	CARBON 430K JA 1/6W
R3008	401 026 7408	CARBON 39K JA 1/6W
R3011	401 024 7004	CARBON 1K JA 1/6W
R3012	401 027 0309	CARBON 47K JA 1/6W
R3013	401 026 1307	CARBON 27K JA 1/6W
R3014	401 025 8208	CARBON 22K JA 1/6W
R3015	401 027 5908	CARBON 68K JA 1/6W
R3016	401 027 2600	CARBON 5.6K JA 1/6W
R3017	401 027 0309	CARBON 47K JA 1/6W
R3018	401 026 1307	CARBON 27K JA 1/6W
R3019	401 025 8208	CARBON 22K JA 1/6W
R3020	401 027 5908	CARBON 68K JA 1/6W
R3021	401 027 2600	CARBON 5.6K JA 1/6W
R3027	401 024 7004	CARBON 1K JA 1/6W
R3029	401 027 6905	CARBON 750 JA 1/6W
R3034	401 024 7004	CARBON 1K JA 1/6W
R3037	401 024 7004	CARBON 1K JA 1/6W
R3038	401 024 7004	CARBON 1K JA 1/6W
R3039	401 024 7400	CARBON 10K JA 1/6W
R3040	401 024 7004	CARBON 1K JA 1/6W
R3041	401 024 7004	CARBON 1K JA 1/6W
R3042	401 026 9907	CARBON 4.7K JA 1/6W
R3043	401 024 7004	CARBON 1K JA 1/6W
R3044	401 024 7004	CARBON 1K JA 1/6W
R3045	401 024 7004	CARBON 1K JA 1/6W
R3046	401 024 7004	CARBON 1K JA 1/6W
R3047	401 026 4605	CARBON 33K JA 1/6W
R3048	401 026 4605	CARBON 33K JA 1/6W
R3049	401 024 7004	CARBON 1K JA 1/6W
R3052	401 024 7004	CARBON 1K JA 1/6W
R3053	401 024 7004	CARBON 1K JA 1/6W
R3054	401 024 7004	CARBON 1K JA 1/6W
R3055	401 024 7004	CARBON 1K JA 1/6W
R3056	401 024 7004	CARBON 1K JA 1/6W
R3058	401 024 7400	CARBON 10K JA 1/6W
R3062	401 024 7004	CARBON 1K JA 1/6W
R3063	401 024 7004	CARBON 1K JA 1/6W
R3064	401 024 7004	CARBON 1K JA 1/6W
R3065	401 024 7400	CARBON 10K JA 1/6W
R3066	401 024 7400	CARBON 10K JA 1/6W
R3070	401 024 7400	CARBON 10K JA 1/6W
R3071	401 024 7400	CARBON 10K JA 1/6W
R3072	401 024 7004	CARBON 1K JA 1/6W
R3073	401 024 7004	CARBON 1K JA 1/6W
R3074	401 024 7004	CARBON 1K JA 1/6W
R3075	401 024 7400	CARBON 10K JA 1/6W
R3076	401 024 7400	CARBON 10K JA 1/6W
R3077	401 024 7004	CARBON 1K JA 1/6W
R3078	401 026 4605	CARBON 33K JA 1/6W
R3079	401 026 4605	CARBON 33K JA 1/6W
R3080	401 027 0309	CARBON 47K JA 1/6W
R3083	401 026 3202	CARBON 30K JA 1/6W
R3084	401 026 3202	CARBON 30K JA 1/6W
R3085	401 027 5502	CARBON 6.8K JA 1/6W
R3086	401 025 0004	CARBON 120K JA 1/6W
R3087	401 024 7004	CARBON 1K JA 1/6W
R3088	401 025 1605	CARBON 1.5K JA 1/6W
R3089	401 024 7004	CARBON 1K JA 1/6W
R3090	401 024 7004	CARBON 1K JA 1/6W
R3091	401 024 7004	CARBON 1K JA 1/6W
R3092	401 024 7400	CARBON 10K JA 1/6W
R3093	401 024 7400	CARBON 10K JA 1/6W
R3095	401 024 7400	CARBON 10K JA 1/6W
R3104	401 027 5502	CARBON 6.8K JA 1/6W
R3105	401 025 8208	CARBON 22K JA 1/6W
R3107	401 024 7400	CARBON 10K JA 1/6W
R3108	401 026 7002	CARBON 3.9K JA 1/6W

Location	Part No.	Description
R3112	401 024 8001	CARBON 1M JA 1/6W
R3114	401 024 7400	CARBON 10K JA 1/6W
R3115	401 024 7400	CARBON 10K JA 1/6W
R3122	401 024 7400	CARBON 10K JA 1/6W
R3151	402 036 4401	FUSIBLE RES 3.3 JA 1/2W
R3164	401 024 7400	CARBON 10K JA 1/6W
R3167	401 026 9907	CARBON 4.7K JA 1/6W
R3168	401 025 8208	CARBON 22K JA 1/6W
R3169	401 024 7400	CARBON 10K JA 1/6W
R3170	401 024 7707	CARBON 100K JA 1/6W
R3172	401 026 9907	CARBON 4.7K JA 1/6W
R3178	401 024 7004	CARBON 1K JA 1/6W
R3179	401 024 7004	CARBON 1K JA 1/6W
R3180	401 024 7004	CARBON 1K JA 1/6W
R3188	401 024 7400	CARBON 10K JA 1/6W
R3190	401 024 7004	CARBON 1K JA 1/6W
R3192	401 024 7004	CARBON 1K JA 1/6W
R3193	401 024 7004	CARBON 1K JA 1/6W
R3194	401 024 7004	CARBON 1K JA 1/6W
R3195	401 024 7004	CARBON 1K JA 1/6W
R3196	401 024 7004	CARBON 1K JA 1/6W
R3197	401 024 7004	CARBON 1K JA 1/6W
R3198	401 024 7004	CARBON 1K JA 1/6W
		(MISCELLANEOUS)
X3001	4–266V–02900	CERAMIC RESONATOR 8MHZ
or	4–266V–03200	CERAMIC RESONATOR 8MHZ
X3002	4–266V–02800	CERAMIC RESONATOR 5MHZ
or	4–266V–03100	CERAMIC RESONATOR 5MHZ
X3003	4–266V–01100	CERAMIC RESONATOR 4MHZ

SY-1 BOARD (SERVO)
NO.143-0-233V-64423

Location	Part No.	Description
		(COMPOSITE)
B4001	405 063 9104	TR DTA144EL-TL2
B4002	405 063 9708	TR DTC144EL-TL2
B4003	405 063 9708	TR DTC144EL-TL2
		(CAPACITORS)
C4001	403 001 7403	CERAMIC 4700PF K 16V
C4002	403 001 7403	CERAMIC 4700PF K 16V
C4003	403 001 1609	CERAMIC 0.01MF K 16V
C4004	403 041 9603	ELECT 10MF M 16V
C4005	403 062 7008	POLYESTER 0.056MF K 50V
C4006	403 062 7008	POLYESTER 0.056MF K 50V
C4007	403 121 9509	CERAMIC 0.1MF Z 50V
C4008	403 039 3101	ELECT 47MF M 6.3V
C4009	403 001 1609	CERAMIC 0.01MF K 16V
C4010	403 049 1005	ELECT 1MF M 50V
C4011	403 049 1005	ELECT 1MF M 50V
C4012	403 071 6207	CERAMIC 220PF K 50V
C4013	403 041 9603	ELECT 10MF M 16V
C4014	403 049 1005	ELECT 1MF M 50V
C4015	403 071 6207	CERAMIC 220PF K 50V
C4016	403 001 1609	CERAMIC 0.01MF K 16V
C4017	403 001 1609	CERAMIC 0.01MF K 16V
C4018	403 044 7002	ELECT 10MF M 25V
C4019	403 044 7002	ELECT 10MF M 25V
C4020	403 001 1609	CERAMIC 0.01MF K 16V
C4021	403 001 8806	CERAMIC 6800PF K 16V
C4022	403 001 8806	CERAMIC 6800PF K 16V
C4023	403 059 6007	POLYESTER 0.022MF K 50V
C4024	403 059 6007	POLYESTER 0.022MF K 50V
C4025	403 061 8501	POLYESTER 4700PF K 50V
C4026	403 071 6207	CERAMIC 220PF K 50V
C4027	403 069 1207	CERAMIC 1000PF K 50V
C4028	403 060 8304	POLYESTER 0.033MF K 50V
C4029	403 003 2802	CERAMIC 0.022MF K 25V

Location	Part No.	Description
C4030	403 004 0500	CERAMIC 0.047MF K 25V
C4031	403 049 1005	ELECT 1MF M 50V
C4032	403 001 1609	CERAMIC 0.01MF K 16V
C4033	403 069 1207	CERAMIC 1000PF K 50V
C4034	403 041 9603	ELECT 10MF M 16V
C4035	403 001 1609	CERAMIC 0.01MF K 16V
C4036	403 001 1609	CERAMIC 0.01MF K 16V
C4037	403 086 0405	NP-ELECT 4.7MF M 25V
C4038	403 060 6508	POLYESTER 3300PF K 50V
C4039	403 057 0502	POLYESTER 0.01MF K 50V
C4040	403 001 1609	CERAMIC 0.01MF K 16V
C4041	403 086 0405	NP-ELECT 4.7MF M 25V
C4042	403 040 2308	ELECT 22MF M 10V
C4043	403 086 0405	NP-ELECT 4.7MF M 25V
C4044	403 041 9603	ELECT 10MF M 16V
C4045	403 040 2308	ELECT 22MF M 10V
C4046	403 039 6102	ELECT 10MF M 10V
C4047	403 059 6007	POLYESTER 0.022MF K 50V
C4048	403 069 1207	CERAMIC 1000PF K 50V
C4049	403 121 9509	CERAMIC 0.1MF Z 50V
C4050	403 039 3101	ELECT 47MF M 6.3V
C4051	403 001 5102	CERAMIC 2200PF M 16V
C4052	403 044 7002	ELECT 10MF M 25V
or	403 090 4307	TA-SOLID 10MF M 10V
C4053	403 001 2903	CERAMIC 0.1MF M 16V
or	403 121 9509	CERAMIC 0.1MF Z 50V
		(DIODES)
D4001	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4002	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4004	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4005	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4006	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4007	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4008	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4009	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4010	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4011	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4012	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4013	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4014	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4015	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D4018	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
		(INTEGRATED CIRCUITS)
IC4001	409 134 1103	IC LC7413-8046
IC4002	409 114 4100	IC LA7116
IC4003	409 133 1203	IC LA7120
IC4004	409 002 2904	IC BA236
		(TRANSISTORS)
Q4001	405 057 6201	TR 2SC4038-Q
or	405 057 6409	TR 2SC4038-R-TL2
		(RESISTORS)
R4001	401 024 7004	CARBON 1K JA 1/6W
R4002	401 027 5908	CARBON 68K JA 1/6W
R4003	401 027 5908	CARBON 68K JA 1/6W
R4004	401 027 0507	CARBON 470K JA 1/6W

Location	Part No.	Description
R4005	401 026 4902	CARBON 330K JA 1/6W
R4006	401 027 5908	CARBON 68K JA 1/6W
R4007	401 024 7400	CARBON 10K JA 1/6W
R4008	401 025 8703	CARBON 220K JA 1/6W
R4009	401 024 7004	CARBON 1K JA 1/6W
R4010	401 024 7400	CARBON 10K JA 1/6W
R4011	401 024 7400	CARBON 10K JA 1/6W
R4012	401 024 7400	CARBON 10K JA 1/6W
R4013	401 024 7400	CARBON 10K JA 1/6W
R4014	401 024 7400	CARBON 10K JA 1/6W
R4015	401 024 7400	CARBON 10K JA 1/6W
R4016	401 024 7400	CARBON 10K JA 1/6W
R4017	401 025 7805	CARBON 2.2K JA 1/6W
R4018	401 024 7004	CARBON 1K JA 1/6W
R4019	401 024 7707	CARBON 100K JA 1/6W
R4020	401 024 7400	CARBON 10K JA 1/6W
R4021	401 024 7004	CARBON 1K JA 1/6W
R4022	401 024 7707	CARBON 100K JA 1/6W
R4023	401 024 7400	CARBON 10K JA 1/6W
R4024	401 024 7004	CARBON 1K JA 1/6W
R4025	401 026 4605	CARBON 33K JA 1/6W
R4026	401 027 6103	CARBON 680K JA 1/6W
R4027	401 024 7707	CARBON 100K JA 1/6W
R4028	401 024 7707	CARBON 100K JA 1/6W
R4029	401 025 2305	CARBON 150K JA 1/6W
R4030	401 026 1307	CARBON 27K JA 1/6W
R4031	401 026 1307	CARBON 27K JA 1/6W
R4032	401 026 4308	CARBON 3.3K JA 1/6W
R4033	401 024 7400	CARBON 10K JA 1/6W
R4034	401 025 8208	CARBON 22K JA 1/6W
R4035	401 024 7004	CARBON 1K JA 1/6W
R4036	401 027 0309	CARBON 47K JA 1/6W
R4037	401 024 7004	CARBON 1K JA 1/6W
R4038	401 024 7004	CARBON 1K JA 1/6W
R4039	401 024 6700	CARBON 100 JA 1/6W
R4040	401 025 2305	CARBON 150K JA 1/6W
R4043	401 024 7400	CARBON 10K JA 1/6W
R4044	401 024 7400	CARBON 10K JA 1/6W
R4045	401 025 8703	CARBON 220K JA 1/6W
R4046	401 025 4903	CARBON 180K JA 1/6W
R4047	401 087 4101	MT-FILM 4.7K FD 1/6W
R4048	401 087 4101	MT-FILM 4.7K FD 1/6W
R4049	401 024 7707	CARBON 100K JA 1/6W
R4050	401 024 7004	CARBON 1K JA 1/6W
R4051	401 026 3905	CARBON 330 JA 1/6W
R4052	401 024 7707	CARBON 100K JA 1/6W
R4053	401 024 7004	CARBON 1K JA 1/6W
R4054	401 024 7400	CARBON 10K JA 1/6W
R4055	401 025 8703	CARBON 220K JA 1/6W
R4056	401 024 7400	CARBON 10K JA 1/6W
R4057	401 026 4308	CARBON 3.3K JA 1/6W
R4058	401 026 1604	CARBON 270K JA 1/6W
R4059	401 025 8208	CARBON 22K JA 1/6W
R4060	401 024 7400	CARBON 10K JA 1/6W
R4061	401 025 4903	CARBON 180K JA 1/6W
R4062	401 026 4605	CARBON 33K JA 1/6W
R4063	401 024 7400	CARBON 10K JA 1/6W
R4064	401 026 4605	CARBON 33K JA 1/6W
R4065	401 024 7400	CARBON 10K JA 1/6W
R4066	401 024 7707	CARBON 100K JA 1/6W
R4067	401 024 7707	CARBON 100K JA 1/6W
R4068	401 027 6905	CARBON 750 JA 1/6W
R4069	401 027 7704	CARBON 750K JA 1/6W
R4070	401 024 7004	CARBON 1K JA 1/6W
R4071	401 024 7004	CARBON 1K JA 1/6W
R4072	401 024 7004	CARBON 1K JA 1/6W
R4073	401 027 0309	CARBON 47K JA 1/6W
R4074	401 024 7004	CARBON 1K JA 1/6W
R4075	401 024 7004	CARBON 1K JA 1/6W
R4076	401 024 7004	CARBON 1K JA 1/6W
R4077	401 024 7004	CARBON 1K JA 1/6W
R4078	401 024 7004	CARBON 1K JA 1/6W
R4079	401 024 7004	CARBON 1K JA 1/6W
R4080	401 024 7004	CARBON 1K JA 1/6W

Location	Part No.	Description
		(MISCELLANEOUS)
A7401	4–985V–06002	DIGITAL DISPLAY
CT7401	4–224V–15300	TRIMMER
X7401	4–225V–23900	CRYSTAL 4.19MHZ
or	4–225V–24100	CRYSTAL 4.19MHZ
X7402	4–225V–23100	CRYSTAL 32KHZ
or	4–225V–24200	CRYSTAL 32KHZ
or	4–225V–26100	CRYSTAL 32KHZ

TM-5 BOARD (SWITCH & VR)
NO.143-0-233V-66000

Location	Part No.	Description
	143–2–374T–16800	BRACKET,LED
		(DIODES)
D7502	407 078 2903	LED BR3433S
D7503	407 078 2903	LED BR3433S
		(RESISTOR)
R7507	401 027 8107	CARBON 82 JA 1/6W
		(SWITCHES)
S7501	4–231V–70500	PUSH SWITCH
or	4–231V–69100	PUSH SWITCH
		(VARIABLE RESISTORS)
VR 7501	4–222V–35600	VR 500K OHM,TRACKING
VR 7502	4–222V–35600	VR 500K OHM,SLOW
VR 7503	4–222V–35700	VR 5K OHM,PICTURE

DM-1 BOARD (DM CONNECTION & P.C.B.)

Location	Part No.	Description
		(CAPACITORS)
C8001	403 003 3700	CERAMIC 0.022MF Z 25V
C8002	403 003 3700	CERAMIC 0.022MF Z 25V
C8003	403 003 3700	CERAMIC 0.022MF Z 25V
C8005	403 003 3700	CERAMIC 0.022MF Z 25V
C8006	403 003 3700	CERAMIC 0.022MF Z 25V
C8007	403 003 3700	CERAMIC 0.022MF Z 25V
C8009	403 003 3700	CERAMIC 0.022MF Z 25V
C8010	403 003 3700	CERAMIC 0.022MF Z 25V
C8011	403 003 3700	CERAMIC 0.022MF Z 25V
		(COILS)
L8001	4–471V–11700	CORE
L8002	4–471V–11700	CORE
L8003	4–471V–11700	CORE
		(RESISTOR)
R8001	401 012 4404	CARBON 100 JA 1/4W
		(MISCELLANEOUS)
F8001	4–953V–29500	FILTER
F8002	4–953V–29500	FILTER
F8003	4–953V–29500	FILTER

DM-2 BOARD (REC/PB VIDEO SIGNAL PROCESS CIRCUIT) NO.143-0-233V-63700

Location	Part No.	Description
		(COMPOSITE)
B8101	405 018 2402	TR 2SC3398-TB
B8102	405 018 1900	TR 2SC3395-TB
		(CAPACITORS)
C8101	403 039 2104	ELECT 47MF M 6.3V
C8102	403 074 3104	CERAMIC 0.047MF Z 50V
C8103	403 039 2104	ELECT 47MF M 6.3V
C8104	403 074 3104	CERAMIC 0.047MF Z 50V
C8105	403 010 8507	CERAMIC 12PF J 50V
C8106	403 086 5400	NP-ELECT 2.2MF M 50V
C8108	403 030 6903	CERAMIC 68PF J 50V
C8119	403 040 7501	ELECT 33MF M 10V
C8121	403 068 0409	CERAMIC 0.1MF Z 25V
C8122	403 039 2104	ELECT 47MF M 6.3V
C8123	403 040 7501	ELECT 33MF M 10V
C8124	403 069 5601	CERAMIC 0.01MF K 50V
C8125	403 043 9601	ELECT 47MF M 16V
C8127	403 068 0409	CERAMIC 0.1MF Z 25V
C8128	403 039 2609	ELECT 47MF M 6.3V
C8131	403 041 8804	ELECT 10MF M 16V
C8132	403 008 7406	CERAMIC 10PF D 50V
C8133	403 049 0008	ELECT 1MF M 50V
C8134	403 051 0607	ELECT 4.7MF M 50V
C8135	403 068 0409	CERAMIC 0.1MF Z 25V
C8136	403 039 2104	ELECT 47MF M 6.3V
C8137	403 010 1102	CERAMIC 1000PF J 50V
C8138	403 049 0008	ELECT 1MF M 50V
C8139	403 038 1603	ELECT 100MF M 6.3V
C8140	403 068 0409	CERAMIC 0.1MF Z 25V
C8141	403 039 2104	ELECT 47MF M 6.3V
C8142	403 010 1102	CERAMIC 1000PF J 50V
C8143	403 030 6903	CERAMIC 68PF J 50V
C8144	403 049 0008	ELECT 1MF M 50V
C8145	403 074 3104	CERAMIC 0.047MF Z 50V
C8146	403 041 8804	ELECT 10MF M 16V
C8147	403 069 5601	CERAMIC 0.01MF K 50V
C8148	403 032 8608	CERAMIC 8PF D 50V
C8149	403 030 6903	CERAMIC 68PF J 50V
C8150	403 010 8507	CERAMIC 12PF J 50V
C8151	403 049 0008	ELECT 1MF M 50V
C8152	403 074 3104	CERAMIC 0.047MF Z 50V
C8153	403 041 8804	ELECT 10MF M 16V
C8154	403 069 5601	CERAMIC 0.01MF K 50V
C8155	403 069 5601	CERAMIC 0.01MF K 50V
C8156	403 069 5601	CERAMIC 0.01MF K 50V
C8157	403 039 2104	ELECT 47MF M 6.3V
C8158	403 039 2104	ELECT 47MF M 6.3V
C8159	403 068 0409	CERAMIC 0.1MF Z 25V
C8160	403 049 0008	ELECT 1MF M 50V
C8161	403 074 3104	CERAMIC 0.047MF Z 50V
C8162	403 030 6903	CERAMIC 68PF J 50V
C8163	403 069 5601	CERAMIC 0.01MF K 50V
C8164	403 069 5601	CERAMIC 0.01MF K 50V
C8165	403 074 3104	CERAMIC 0.047MF Z 50V
C8166	403 069 5601	CERAMIC 0.01MF K 50V
C8167	403 014 9203	CERAMIC 180PF J 50V
C8168	403 069 5601	CERAMIC 0.01MF K 50V
C8169	403 071 8102	CERAMIC 2200PF K 50V
		(DIODE)
D8101	407 004 0706	DIODE DCB015
		(INTEGRATED CIRCUITS)
IC8103	409 115 3409	IC MN74HC4053S
or	409 146 4208	IC TC74HC4053F
IC8104	409 115 3409	IC MN74HC4053S
or	409 146 4208	IC TC74HC4053F
IC8105	409 146 4208	IC TC74HC4053F
		(COILS)
L8102	4–253V–97125	HF CHOKE 100UH
L8103	4–253V–97114	HF CHOKE 12UH
L8106	4–253V–97125	HF CHOKE 100UH
L8107	4–253V–97125	HF CHOKE 100UH
L8108	4–253V–97125	HF CHOKE 100UH
L8109	4–253V–97125	HF CHOKE 100UH
L8110	4–253V–97125	HF CHOKE 100UH
L8111	4–253V–97125	HF CHOKE 100UH
L8112	4–253V–97125	HF CHOKE 100UH
		(TRANSISTORS)
Q8101	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8102	405 043 8608	TR 2SA1256-E5-TB
or	405 043 8509	TR 2SA1256-E4-TB
Q8103	405 015 9909	TR 2SC2814-F5-TB
or	405 015 9701	TR 2SC2814-F4-TB
Q8104	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8105	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8106	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8107	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8108	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8109	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8110	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8111	405 043 8608	TR 2SA1256-E5-TB
or	405 043 8509	TR 2SA1256-E4-TB
Q8112	405 015 9909	TR 2SC2814-F5-TB
or	405 015 9701	TR 2SC2814-F4-TB
Q8114	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8115	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8116	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8117	405 043 8608	TR 2SA1256-E5-TB
or	405 043 8509	TR 2SA1256-E4-TB
Q8118	405 015 9909	TR 2SC2814-F5-TB
or	405 015 9701	TR 2SC2814-F4-TB
Q8119	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8120	405 015 8407	TR 2SC2814-F5-TB
or	405 015 8308	TR 2SC2814-F4-TB
Q8121	405 002 6409	TR 2SA1179-M4-TB
or	405 002 6508	TR 2SA1179-M5-TB

Location	Part No.	Description
Q8122	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8124	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8125	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8126	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8127	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8128	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8129	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8131	405 002 6409	TR 2SA1179-M4-TB
or	405 002 6508	TR 2SA1179-M5-TB
Q8132	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8307	TR 2SC2812-L4-TB
Q8133	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8134	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8135	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8136	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
		(RESISTORS)
R8101	401 037 5400	MT-GLAZE 1K JA 1/10W
R8102	401 038 7106	MT-GLAZE 510 JA 1/10W
R8103	401 038 7106	MT-GLAZE 510 JA 1/10W
R8104	401 039 0304	MT-GLAZE 820 JA 1/10W
R8105	401 038 7106	MT-GLAZE 510 JA 1/10W
R8106	401 038 5300	MT-GLAZE 39K JA 1/10W
R8107	401 037 8005	MT-GLAZE 15K JA 1/10W
R8108	401 037 5400	MT-GLAZE 1K JA 1/10W
R8109	401 037 5400	MT-GLAZE 1K JA 1/10W
R8110	401 037 5400	MT-GLAZE 1K JA 1/10W
R8111	401 037 5400	MT-GLAZE 1K JA 1/10W
R8112	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R8113	401 037 5400	MT-GLAZE 1K JA 1/10W
R8114	401 037 5400	MT-GLAZE 1K JA 1/10W
R8115	401 038 5003	MT-GLAZE 390 JA 1/10W
R8116	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8117	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8118	401 038 5003	MT-GLAZE 390 JA 1/10W
R8119	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8120	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8121	401 038 9001	MT-GLAZE 680 JA 1/10W
R8122	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8123	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8124	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8125	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R8126	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8127	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8128	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8129	401 037 5608	MT-GLAZE 10K JA 1/10W
R8130	401 037 5400	MT-GLAZE 1K JA 1/10W
R8131	401 037 5400	MT-GLAZE 1K JA 1/10W
R8132	401 037 5400	MT-GLAZE 1K JA 1/10W
R8133	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R8134	401 038 1401	MT-GLAZE 24K JA 1/10W
R8135	401 037 5400	MT-GLAZE 1K JA 1/10W
R8136	401 038 6505	MT-GLAZE 47K JA 1/10W
R8137	401 037 5400	MT-GLAZE 1K JA 1/10W
R8138	401 037 5400	MT-GLAZE 1K JA 1/10W
R8139	401 037 5608	MT-GLAZE 10K JA 1/10W
R8140	401 037 5608	MT-GLAZE 10K JA 1/10W
R8141	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R8142	401 037 5400	MT-GLAZE 1K JA 1/10W
R8143	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R8144	401 037 8005	MT-GLAZE 15K JA 1/10W
R8145	401 038 3702	MT-GLAZE 33K JA 1/10W
R8146	401 037 7305	MT-GLAZE 1.3K JA 1/10W

Location	Part No.	Description
R8147	401 038 3009	MT-GLAZE 3K JA 1/10W
R8148	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8149	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8150	401 038 9605	MT-GLAZE 750 JA 1/10W
R8151	401 038 4105	MT-GLAZE 3.6K JA 1/10W
R8152	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R8153	401 037 5400	MT-GLAZE 1K JA 1/10W
R8154	401 037 5400	MT-GLAZE 1K JA 1/10W
R8155	401 037 5400	MT-GLAZE 1K JA 1/10W
R8156	401 037 5608	MT-GLAZE 10K JA 1/10W
R8157	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R8158	401 037 7404	MT-GLAZE 13K JA 1/10W
R8159	401 039 0809	MT-GLAZE 91 JA 1/10W
R8160	401 038 6307	MT-GLAZE 470 JA 1/10W
R8161	401 037 5608	MT-GLAZE 10K JA 1/10W
R8162	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R8163	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R8164	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R8165	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R8166	401 038 1401	MT-GLAZE 24K JA 1/10W
R8167	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R8168	401 035 5204	MT-GLAZE 10K JA 1/8W
R8169	401 038 9605	MT-GLAZE 750 JA 1/10W
R8170	401 037 5400	MT-GLAZE 1K JA 1/10W
R8171	401 037 7800	MT-GLAZE 150 JA 1/10W
R8172	401 037 7206	MT-GLAZE 130 JA 1/10 W
R8173	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8174	401 037 5400	MT-GLAZE 1K JA 1/10W
R8175	401 038 4105	MT-GLAZE 3.6K JA 1/10W
R8176	401 039 1004	MT-GLAZE 9.1K JA 1/10W
R8177	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R8178	401 039 0304	MT-GLAZE 820 JA 1/10W
R8179	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R8180	401 038 0206	MT-GLAZE 20K JA 1/10W
R8181	401 037 5608	MT-GLAZE 10K JA 1/10W
R8182	401 037 5400	MT-GLAZE 1K JA 1/10W
R8183	401 037 5400	MT-GLAZE 1K JA 1/10W
R8184	401 037 5400	MT-GLAZE 1K JA 1/10W
R8185	401 037 5400	MT-GLAZE 1K JA 1/10W
R8186	401 038 5805	MT-GLAZE 430 JA 1/10W
R8187	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8188	401 037 5400	MT-GLAZE 1K JA 1/10W
R8190	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R8191	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R8192	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R8193	401 038 9704	MT-GLAZE 7.5K JA 1/10W
R8194	401 037 9309	MT-GLAZE 18K JA 1/10W
R8195	401 037 7404	MT-GLAZE 13K JA 1/10W
R8196	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8197	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8199	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
		(SEMI VARIABLE RESISTORS)
SVR8101	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
SVR8103	4–222V–69107	SEMI VR 10K OHM
or	4–222V–68912	SEMI VR 10K OHM
SVR8104	4–222V–69106	SEMI VR 5K OHM
or	4–222V–68910	SEMI VR 4.7K OHM
SVR8105	4–222V–69107	SEMI VR 10K OHM
or	4–222V–68912	SEMI VR 10K OHM
SVR8106	4–222V–69106	SEMI VR 5K OHM
or	4–222V–68910	SEMI VR 4.7K OHM
SVR8107	4–222V–69108	SEMI VR 20K OHM
or	4–222V–68914	SEMI VR 22K OHM
		(MISCELLANEOUS)
CN8103	4–236V–29912	PLUG
F8101	4–259V–32000	HF COIL TRANS.1.7MHZ LPF
or	4–259V–32050	HF COIL TRANS.
F8102	4–259V–32100	HF COIL TRANS.4MHZ LPF
or	4–259V–32150	HF COIL TRANS.
F8103	4–259V–32200	HF COIL TRANS.4MHZ LPF
or	4–259V–32250	HF COIL TRANS.

Location	Part No.	Description
F8104	4–259V–32300	HF COIL TRANS.1.25MHZ LPF
or	4–259V–32350	HF COIL TRANS.
F8105	4–259V–32100	HF COIL TRANS.4MHZ LPF
or	4–259V–32150	HF COIL TRANS.
F8106	4–259V–32300	HF COIL TRANS.1.25MHZ LPF
or	4–259V–32350	HF COIL TRANS.

DM-3 BOARD (SYNC. SEPARATOR CIRCUIT)
NO.143-0-233V-63800

Location	Part No.	Description
		(COMPOSITE)
B8201	405 018 2709	TR 2SC3401
B8203	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B8204	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
		(CAPACITORS)
C8201	403 043 9601	ELECT 47MF M 16V
C8202	403 114 3705	CERAMIC 0.1MF Z 50V
C8203	403 038 2006	ELECT 100MF M 6.3V
C8204	403 114 3705	CERAMIC 0.1MF Z 50V
C8205	403 043 9601	ELECT 47MF M 16V
C8206	403 114 3705	CERAMIC 0.1MF Z 50V
C8207	403 047 0604	ELECT 4.7MF M 25V
C8208	403 070 8608	CERAMIC 1500PF K 50V
C8209	403 047 0604	ELECT 4.7MF M 25V
C8210	403 042 8308	ELECT 22MF M 16V
C8211	403 062 8203	POLYESTER 680PF J 50V
C8212	403 058 3304	POLYESTER 0.015MF K 50V
C8213	403 063 1302	POLYESTER 0.068MF J 50V
C8214	403 057 2902	POLYESTER 0.1MF K 50V
C8215	403 059 6007	POLYESTER 0.022MF K 50V
C8216	403 050 0509	ELECT 2.2MF M 50V
C8217	403 062 4502	POLYESTER 5600PF J 50V
C8218	403 001 1906	CERAMIC 0.01MF M 16V
C8219	403 049 0800	ELECT 1MF M 50V
C8220	403 056 7205	POLYESTER 1000PF J 50V
C8221	403 004 1002	CERAMIC 0.047MF M 25V
C8222	403 043 9601	ELECT 47MF M 16V
C8223	403 114 3705	CERAMIC 0.1MF Z 50V
C8224	403 047 0604	ELECT 4.7MF M 25V
C8225	403 070 8608	CERAMIC 1500PF K 50V
C8226	403 047 0604	ELECT 4.7MF M 25V
C8227	403 042 8308	ELECT 22MF M 16V
C8228	403 062 8203	POLYESTER 680PF J 50V
C8229	403 058 3304	POLYESTER 0.015MF K 50V
C8230	403 063 1302	POLYESTER 0.068MF J 50V
C8231	403 057 2902	POLYESTER 0.1MF K 50V
C8232	403 059 6007	POLYESTER 0.022MF K 50V
C8233	403 050 0509	ELECT 2.2MF M 50V
C8234	403 062 4502	POLYESTER 5600PF J 50V
C8235	403 001 1906	CERAMIC 0.01MF M 16V
C8236	403 049 0800	ELECT 1MF M 50V
C8237	403 056 7205	POLYESTER 1000PF J 50V
C8238	403 004 1002	CERAMIC 0.047MF M 25V
C8239	403 047 0604	ELECT 4.7MF M 25V
C8240	403 043 9601	ELECT 47MF M 16V
C8241	403 114 3705	CERAMIC 0.1MF Z 50V
C8242	403 048 6902	ELECT 0.47MF M 50V
C8243	403 069 0309	CERAMIC 1000PF J 50V
C8244	403 049 0800	ELECT 1MF M 50V
C8245	403 048 6902	ELECT 0.47MF M 50V
C8246	403 072 7500	CERAMIC 330PF J 50V
C8247	403 069 0309	CERAMIC 1000PF J 50V
C8248	403 114 3705	CERAMIC 0.1MF Z 50V
		(INTEGRATED CIRCUITS)
IC8201	409 019 5301	IC LA7820
IC8202	409 019 5301	IC LA7820
IC8203	409 019 0504	IC LA7210
IC8204	409 129 2702	IC M74HC157P
		(COILS)
L8201	4–253V–97125	HF CHOKE 100UH K
L8202	4–253V–97125	HF CHOKE 100UH K
L8203	4–253V–97125	HF CHOKE 100UH K
L8204	4–253V–97125	HF CHOKE 100UH K
		(TRANSISTORS)
Q8201	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8202	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8203	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8204	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8205	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8206	405 004 4007	TR 2SA608-E-SPA
or	405 004 4601	TR 2SA608-F-SPA
		(RESISTORS)
R8201	401 019 2908	CARBON 39K JA 1/4W
R8202	401 020 8807	CARBON 51K JA 1/4W
R8203	401 018 3708	CARBON 3.3K JA 1/4W
R8204	401 016 2505	CARBON 220 JA 1/4W
R8205	401 014 9407	CARBON 160K JA 1/4W
R8206	401 021 1807	CARBON 560 JA 1/4W
R8207	401 012 6903	CARBON 10K JA 1/4W
R8208	401 023 2703	CARBON 8.2K JA 1/4W
R8209	401 017 2702	CARBON 27K JA 1/4W
R8210	401 016 5704	CARBON 220K JA 1/4W
R8211	401 016 5704	CARBON 220K JA 1/4W
R8212	401 021 4006	CARBON 56K JA 1/4W
R8213	401 012 6903	CARBON 10K JA 1/4W
R8214	401 012 5609	CARBON 1K JA 1/4W
R8215	401 013 9903	CARBON 13K JA 1/4W
R8216	401 018 4804	CARBON 33K JA 1/4W
R8217	401 022 3008	CARBON 6.8K JA 1/4W
R8218	401 016 4707	CARBON 22K JA 1/4W
R8219	401 019 2908	CARBON 39K JA 1/4W
R8220	401 020 8807	CARBON 51K JA 1/4W
R8221	401 018 3708	CARBON 3.3K JA 1/4W
R8222	401 016 2505	CARBON 220 JA 1/4W
R8223	401 014 9407	CARBON 160K JA 1/4W
R8224	401 021 1807	CARBON 560 JA 1/4W
R8225	401 012 6903	CARBON 10K JA 1/4W
R8226	401 023 2703	CARBON 8.2K JA 1/4W
R8227	401 017 2702	CARBON 27K JA 1/4W
R8228	401 016 5704	CARBON 220K JA 1/4W
R8229	401 016 5704	CARBON 220K JA 1/4W
R8230	401 021 4006	CARBON 56K JA 1/4W
R8231	401 012 6903	CARBON 10K JA 1/4W
R8232	401 012 5609	CARBON 1K JA 1/4W
R8233	401 013 9903	CARBON 13K JA 1/4W
R8234	401 018 4804	CARBON 33K JA 1/4W
R8235	401 022 3008	CARBON 6.8K JA 1/4W
R8236	401 016 4707	CARBON 22K JA 1/4W
R8237	401 021 9605	CARBON 62K JA 1/4W
R8238	401 018 4804	CARBON 33K JA 1/4W
R8239	401 018 3708	CARBON 3.3K JA 1/4W
R8240	401 016 2505	CARBON 220 JA 1/4W
R8241	401 022 8003	CARBON 75K JA 1/4W
R8242	401 105 3701	CARBON 18K JA 1/4W
R8243	401 018 5702	CARBON 330K JA 1/4W
R8244	401 012 5609	CARBON 1K JA 1/4W
R8245	401 013 5202	CARBON 1.2K JA 1/4W
R8246	401 014 5102	CARBON 15K JA 1/4W
R8248	401 012 6903	CARBON 10K JA 1/4W
R8250	401 012 6903	CARBON 10K JA 1/4W
R8251	401 020 2805	CARBON 47K JA 1/4W
R8252	401 012 6903	CARBON 10K JA 1/4W
R8253	401 012 6903	CARBON 10K JA 1/4W

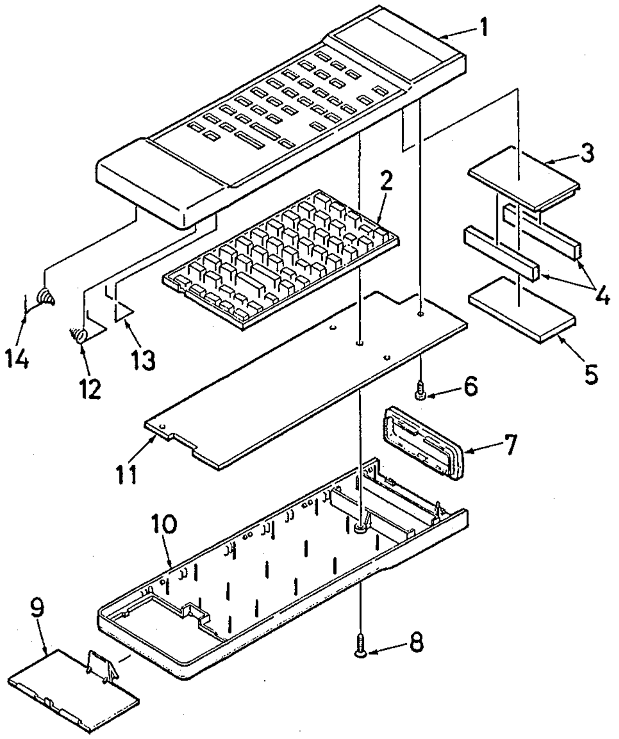
Location	Part No.	Description
C424	403 072 1607	CERAMIC 0.022MF K 50V
C501	403 068 0409	CERAMIC 0.1MF Z 25V
C502	403 068 0409	CERAMIC 0.1MF Z 25V
C503	403 068 0409	CERAMIC 0.1MF Z 25V
C504	403 072 1607	CERAMIC 0.022MF K 50V
C505	403 039 3507	ELECT 470MF M 6.3V
C506	403 072 1607	CERAMIC 0.022MF K 50V
C601	403 072 1607	CERAMIC 0.022MF K 50V
C602	403 072 1607	CERAMIC 0.022MF K 50V
C603	403 039 2104	ELECT 47MF M 6.3V
C604	403 072 1607	CERAMIC 0.022MF K 50V
C605	403 072 1607	CERAMIC 0.022MF K 50V
C701	403 072 1607	CERAMIC 0.022MF K 50V
C702	403 039 2104	ELECT 47MF M 6.3V
C703	403 072 1607	CERAMIC 0.022MF K 50V
C704	403 072 1607	CERAMIC 0.022MF K 50V
C705	403 072 1607	CERAMIC 0.022MF K 50V
C706	403 072 1607	CERAMIC 0.022MF K 50V
C707	403 039 2104	ELECT 47MF M 6.3V
C708	403 072 1607	CERAMIC 0.022MF K 50V
C709	403 072 1607	CERAMIC 0.022MF K 50V
C710	403 039 2104	ELECT 47MF M 6.3V
C711	403 072 1607	CERAMIC 0.022MF K 50V
C712	403 072 1607	CERAMIC 0.022MF K 50V
C713	403 072 1607	CERAMIC 0.022MF K 50V
C714	403 072 1607	CERAMIC 0.022MF K 50V
C715	403 039 2104	ELECT 47MF M 6.3V
C716	403 072 1607	CERAMIC 0.022MF K 50V
C717	403 039 2104	ELECT 47MF M 6.3V
C718	403 072 1607	CERAMIC 0.022MF K 50V
C719	403 072 1607	CERAMIC 0.022MF K 50V
C720	403 072 1607	CERAMIC 0.022MF K 50V
C721	403 072 1607	CERAMIC 0.022MF K 50V
C722	403 072 1607	CERAMIC 0.022MF K 50V
C723	403 039 2104	ELECT 47MF M 6.3V
		(DIODES)
D001	407 057 3600	ZENER DIODE RD6.2M-T1BB1
D002	407 057 3600	ZENER DIODE RD6.2M-T1BB1
D101	407 012 6202	DIODE 1SS184-TE85R
D301	407 012 7605	DIODE 1SS226-TE85R
D302	407 012 6301	DIODE 1SS187-TE85R
		(INTEGRATED CIRCUITS)
IC101	409 115 3409	IC MN74HC4053S
IC201	409 140 1104	IC M50747-680FP
IC202	409 140 1005	IC MN12821Q
IC301	409 044 2702	IC SN74S124N
IC302	410 038 5401	IC M60019-0251FP
IC401	409 131 0901	IC M52678FP
IC402	409 131 0901	IC M52678FP
IC501	409 132 3802	IC M5M4C500L
IC502	409 132 3802	IC M5M4C500L
IC503	409 132 3802	IC M5M4C500L
IC601	409 120 8901	IC UPD74HC157G
IC602	409 120 8901	IC UPD74HC157G
IC701	409 131 1007	IC M52679FP
IC702	409 131 1007	IC M52679FP
IC703	409 131 1007	IC M52679FP
		(COILS)
L001	4–471V–12400	CORE
L002	4–471V–12400	CORE
L003	4–471V–12400	CORE
L004	4–471V–12400	CORE
L101	4–253F–10106	RF CHOKE
L102	4–471V–12300	CORE
L103	4–253F–10101	RF CHOKE
L301	4–253F–10106	RF CHOKE
L401	4–253F–10106	RF CHOKE
L402	4–253F–10101	RF CHOKE
L403	4–253F–10106	RF CHOKE
L404	4–253F–10101	RF CHOKE
L701	4–253F–10106	RF CHOKE

Location	Part No.	Description
L702	4–253F–10106	RF CHOKE
L703	4–253F–10106	RF CHOKE
L704	4–253F–10100	RF CHOKE
L705	4–253F–10100	RF CHOKE
		(TRANSISTORS)
Q101	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q201	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q202	405 018 1900	TR 2SC3395-TB
Q303	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8704	TR 2SC2812-L6-TB
Q701	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q702	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q703	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
		(RESISTORS)
RB601	4–958V–00701	RESISTOR PACK
RB602	4–958V–00701	RESISTOR PACK
R001	401 037 5400	MT-GLAZE 1K JA 1/10W
R002	401 037 5400	MT-GLAZE 1K JA 1/10W
R003	401 037 5400	MT-GLAZE 1K JA 1/10W
R004	401 037 5400	MT-GLAZE 1K JA 1/10W
R005	401 037 5400	MT-GLAZE 1K JA 1/10W
R006	401 037 5400	MT-GLAZE 1K JA 1/10W
R007	401 037 5400	MT-GLAZE 1K JA 1/10W
R008	401 037 5400	MT-GLAZE 1K JA 1/10W
R009	401 037 5400	MT-GLAZE 1K JA 1/10W
R010	401 037 5400	MT-GLAZE 1K JA 1/10W
R012	401 024 6700	CARBON 100 JA 1/6W
R021	401 024 6700	CARBON 100 JA 1/6W
R101	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R102	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R103	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R201	401 038 6505	MT-GLAZE 47K JA 1/10W
R203	401 037 5806	MT-GLAZE 1M JA 1/10W
R204	401 037 5608	MT-GLAZE 10K JA 1/10W
R205	401 037 5608	MT-GLAZE 10K JA 1/10W
R206	401 037 5608	MT-GLAZE 10K JA 1/10W
R207	401 037 5400	MT-GLAZE 1K JA 1/10W
R208	401 037 5707	MT-GLAZE 100K JA 1/10W
R209	401 037 5608	MT-GLAZE 10K JA 1/10W
R301	401 107 9604	MT-FILM 9.1K DU 1/16W
R302	401 107 9901	MT-FILM 2.2K DU 1/16W
R303	401 107 9802	MT-FILM 11K DU 1/16W
R304	401 037 5806	MT-GLAZE 1M JA 1/10W
R305	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R311	401 037 5400	MT-GLAZE 1K JA 1/10W
R401	401 038 7205	MT-GLAZE 5.1K JA 1/10W
R402	401 038 7205	MT-GLAZE 5.1K JA 1/10W
R601	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R701	401 038 6307	MT-GLAZE 470 JA 1/10W
R702	401 038 6307	MT-GLAZE 470 JA 1/10W
R703	401 037 5400	MT-GLAZE 1K JA 1/10W
R704	401 037 5400	MT-GLAZE 1K JA 1/10W
R705	401 037 5400	MT-GLAZE 1K JA 1/10W
R706	401 037 5400	MT-GLAZE 1K JA 1/10W
		(VARIABLE RESISTOR)
VR301	4–222F–60407	SEMI VR
		(MISCELLANEOUS)
F201	4–953V–29500	FILTER
F301	4–953V–29500	FILTER
F302	4–953V–29500	FILTER
F401	4–953V–29500	FILTER
F402	4–953V–29500	FILTER
F501	4–953V–29500	FILTER
F601	4–953V–29500	FILTER
J001	401 037 5004	MT-GLAZE 0.000 ZA 1/10W

Location	Part No.	Description
P002	4-953V-29500	FILTER
P004	4-953V-29100	FILTER
P005	4-953V-29200	FILTER
P006	4-953V-29200	FILTER
P007	401 024 7004	CARBON 1K JA 1/6W
P008	4-953V-29100	FILTER
P009	4-953V-29200	FILTER
P010	4-953V-29200	FILTER
P011	4-953V-29100	FILTER
P013	401 024 7004	CARBON 1K JA 1/6W
P015	4-953V-29000	FILTER
P016	4-953V-29000	FILTER
P018	4-953V-29000	FILTER
P019	4-953V-29000	FILTER
P023	4-953V-29400	FILTER
P024	401 024 7004	CARBON 1K JA 1/6W
P025	401 024 7004	CARBON 1K JA 1/6W
P026	4-953V-29400	FILTER
P027	4-953V-29500	FILTER
P031	4-953V-29400	FILTER
P033	4-953V-29200	FILTER
P034	4-953V-29200	FILTER
P035	4-953V-29200	FILTER
P036	4-953V-28900	FILTER
P037	4-953V-28900	FILTER
P038	4-953V-28900	FILTER
P039	4-953V-28900	FILTER
P040	4-953V-29500	FILTER
X201	4-225V-27700	CRYSTAL
X301	4-225V-27600	CRYSTAL

REMOTE CONTROL UNIT
NO.143-9-4100-69200

Location	Part No.	Description
		(MISCELLANEOUS)
1	143–0–111T–11000	CASE,TOP
2	143–2–161T–88400	PUSH BUTTON
3	4–970V–00900	LCD
4	4–400V–00700	CONNECTOR
5	143–2–352T–24800	SPACER
6	411 022 7807	SCR S-TPG PAN 2X6
7	143–2–132T–12600	IR WINDOW
8	411 101 7308	SCR S-TPG FLT 2.6X10
9	143–2–128T–03900	BATTERY LID
10	143–2–125T–10300	CASE,BOTTOM
11	143–0–233V–67000	RM-1 BOARD ASSEMBLY
12	143–2–382T–04200	TERMINAL,NEGATIVE(INCLUDE RM-1)
13	143–2–382T–04100	TERMINAL,POSITIVE(INCLUDE RM-1)
14	143–2–382T–04000	TERMINAL



RM-1 BOARD (REMOTE CONTROL)
NO.143-0-233V-67000

Location	Part No.	Description
		(CAPACITORS)
C1	403 039 2609	ELECT 47MF M 6.3V
C2	403 009 5708	CERAMIC 100PF J 50V
C3	403 009 5708	CERAMIC 100PF J 50V
C4	403 024 2102	CERAMIC 39PF J 50V
C5	403 150 8702	ELECT 1200MF T 5.5V
C6	403 068 0409	CERAMIC 0.1MF Z 25V
C7	403 068 0409	CERAMIC 0.1MF Z 25V
		(INTEGRATED CIRCUIT)
IC1	409 146 4406	IC MN158452AYE
		(DIODES)
LED1	407 040 3709	LED SLR-932A
or	407 062 6801	LED SE303AY
LED2	407 040 3709	LED SLR-932A
or	407 062 6801	LED SE303AY
		(TRANSISTORS)
Q1	405 079 6807	TR 2SD1664-T101-P
or	405 079 6906	TR 2SD1664-T101-Q
or	405 079 7002	TR 2SD1664-T101-R
Q2	405 014 4400	TR 2SC2412K-T96-Q
or	405 014 4509	TR 2SC2412K-T96-R
or	405 014 4608	TR 2SC2412K-T96-S
		(RESISTORS)
R1	401 111 0208	MT-GLAZE 3.6 JA 1/10W
R2	401 111 0208	MT-GLAZE 3.6 JA 1/10W
R3	401 111 0208	MT-GLAZE 3.6 JA 1/10W
R4	401 111 0208	MT-GLAZE 3.6 JA 1/10W
R5	401 038 6208	MT-GLAZE 47 JA 1/10W
R6	401 037 5608	MT-GLAZE 10K JA 1/10W
R7	401 038 6505	MT-GLAZE 47K JA 1/10W
R8	401 038 6505	MT-GLAZE 47K JA 1/10W
R9	401 038 6505	MT-GLAZE 47K JA 1/10W
R10	401 037 8104	MT-GLAZE 150K JA 1/10W
R11	401 037 5202	MT-GLAZE 100 JA 1/10W
		(TRANSFORMER)
TC1	4–224V–15800	TRIMMER
		(MISCELLANEOUS)
X1	4–266V–02100	CERAMIC RESONATOR
X2	4–225V–26100	CRYSTAL 32KHZ

BLOCK DIAGRAMS, CIRCUIT DIAGRAMS & PRINTED CIRCUIT BOARDS

FVH-D40HV (West Germany)
FVH-D40S (Europe)

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P.C.B. TN-2 TUNING CONTROL CIRCUIT & P.C.B. Ⓜ

P.C.B. TM-4, 5 DISPLAY, TIMER, SWITCH & VR CIRCUIT Ⓝ

A11300 BP2D/GF, EXF 81H REFERENCE NO. WM-21763

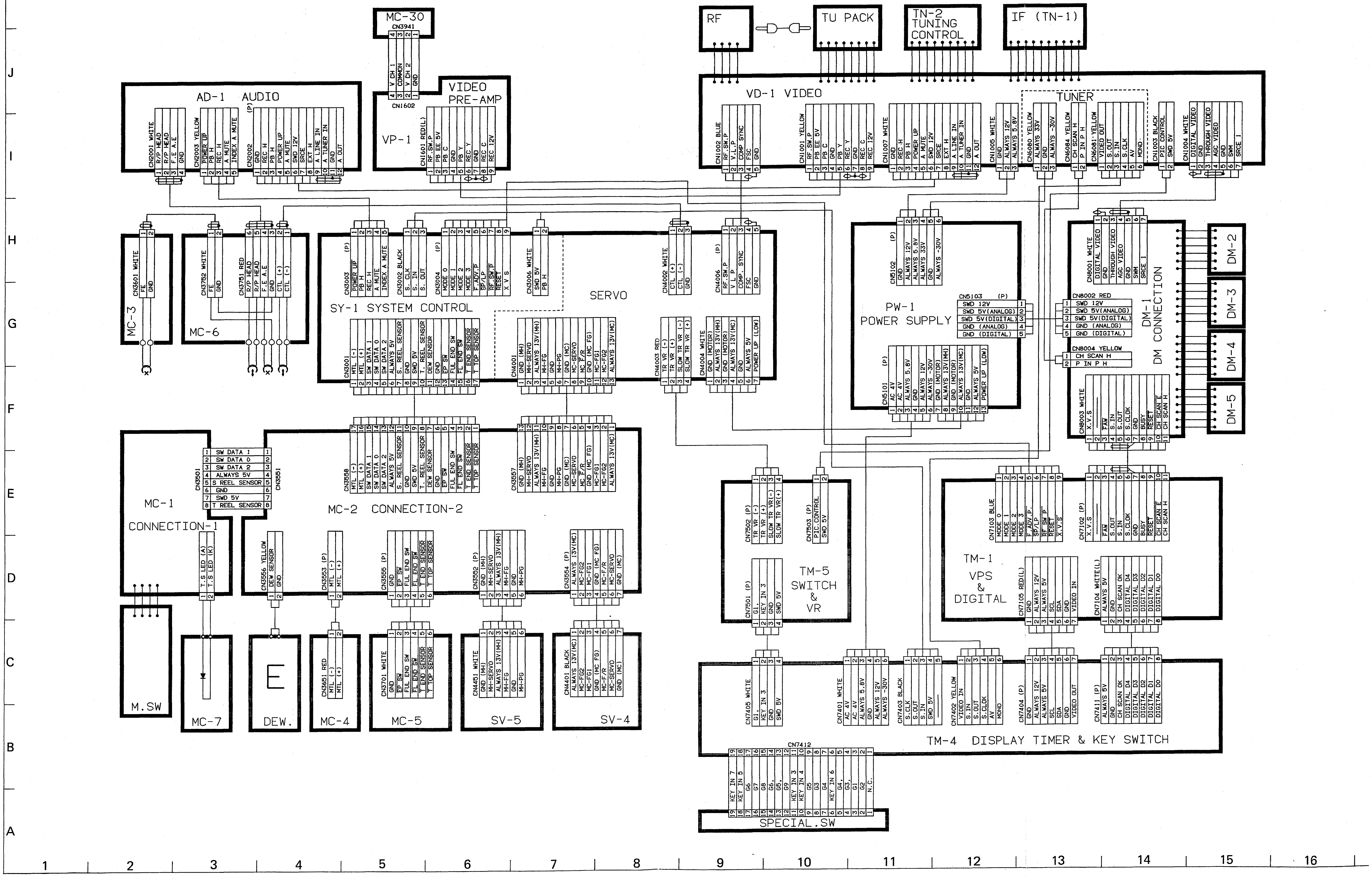
NOTES:

1. All resistance values in "OHMS" unless otherwise noted. (K=1,000 M=1,000,000)
2. All capacitance values in "μfd" unless otherwise noted. p=pico farad
3. All inductance values in "mH" unless otherwise noted. μ=micro henry

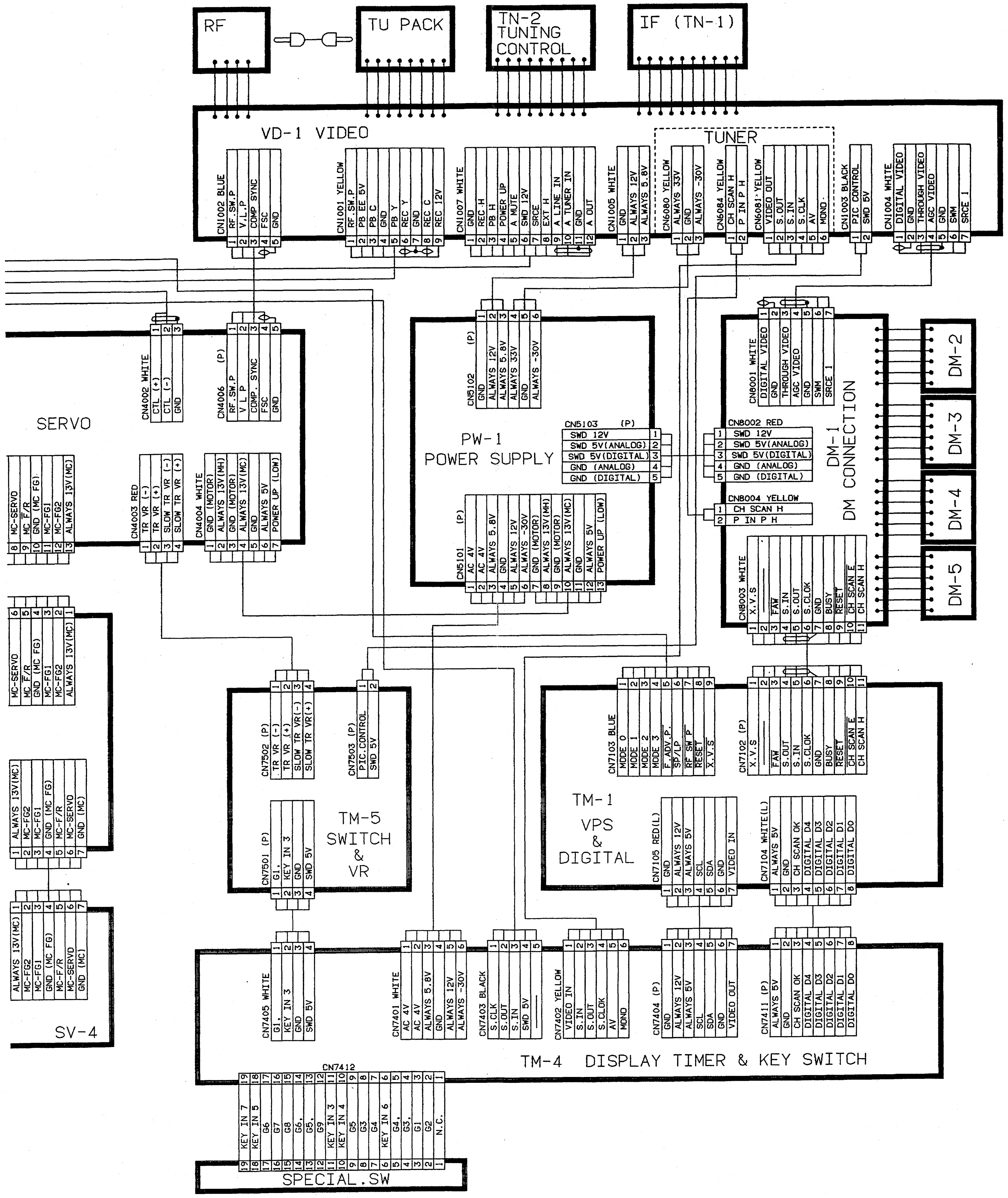
PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A SYMBOL (⚠) IN THIS SCHEMATIC DIAGRAM DESIGNATES COMPONENTS WHOSE VALUE ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A SIMBOL NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

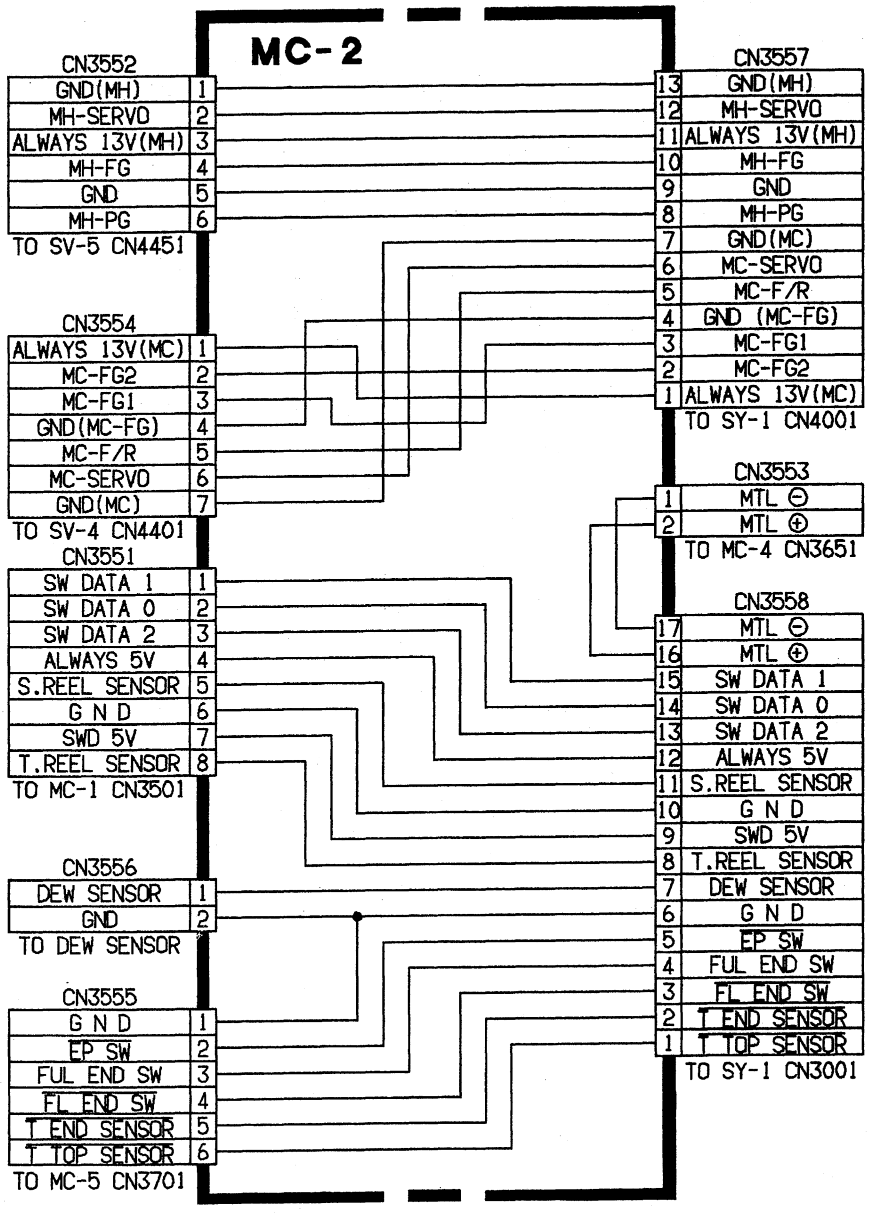
OVERALL WIRING DIAGRAM


MC-30
CN3941
V CH 1
COMMON
V CH 2
GND
CN1602
VIDEO PRE-AMP
VP-1
CN1601 RED(L)
AD-1 AUDIO
CN2001 WHITE
R/P HEAD
F.E A.E
GND
CN2003 YELLOW
POWER UP
PB H
REC H
A MUTE
INDEX A MUTE
CN2002
RF
TU PACK
TN-2 TUNING CONTROL
IF (TN-1)
VD-1 VIDEO
TUNER
CN1002 BLUE
CN1001 YELLOW
CN1007 WHITE
CN1005 WHITE
CN6080 YELLOW
CN6084 YELLOW
CN6081 YELLOW
CN1003 BLACK
CN1004 WHITE
MC-3
CN3601 WHITE
MC-6
CN3752 WHITE
CN3751 RED
SY-1 SYSTEM CONTROL
SERVO
CN3003
CN3002 BLACK
CN3004
CN3006 WHITE
CN3001
CN4001
CN4002 WHITE
CN4006
CN4003 RED
CN4004 WHITE
PW-1 POWER SUPPLY
CN5102
CN5103
CN5101
DM-1 DM CONNECTION
CN8001 WHITE
CN8002 RED
CN8004 YELLOW
CN8003 WHITE
DM-2
DM-3
DM-4
DM-5
MC-1 CONNECTION-1
CN3501
CN3551
MC-2 CONNECTION-2
CN3558
CN3557
CN3556 YELLOW
CN3553
CN3555
CN3552
CN3554
M.SW
MC-7
DEW.
MC-4
CN3651 RED
MC-5
CN3701 WHITE
SV-5
CN4451 WHITE
SV-4
CN4401 BLACK
TM-5 SWITCH & VR
CN7502
CN7503
CN7501
TM-1 VPS & DIGITAL
CN7103 BLUE
CN7102
CN7105 RED(L)
CN7104 WHITE(L)
TM-4 DISPLAY TIMER & KEY SWITCH
CN7405 WHITE
CN7401 WHITE
CN7403 BLACK
CN7402 YELLOW
CN7404
CN7411
CN7412
SPECIAL.SW
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

OVERALL WIRING DIAGRAM


RF
TU PACK
TN-2 TUNING CONTROL
IF (TN-1)
VD-1 VIDEO
TUNER
CN1002 BLUE: 1 RF.SW.P, 2 V.L.P, 3 COMP. SYNC, 4 FSC, 5 GND
CN1001 YELLOW: 1 RF.SW.P, 2 PB EE 5V, 3 PB C, 4 GND, 5 PB Y, 6 REC Y, 7 GND, 8 REC C, 9 REC 12V
CN1007 WHITE: 1 GND, 2 REC H, 3 PB H, 4 POWER UP, 5 A.MUTE, 6 SWD 12V, 7 SRCE, 8 EXT H, 9 A LINE IN, 10 A TUNER IN, 11 GND, 12 A OUT
CN1005 WHITE: 1 GND, 2 ALWAYS 12V, 3 ALWAYS 5.8V
CN6080 YELLOW: 1 ALWAYS 33V, 2 ALWAYS -30V
CN6084 YELLOW: 1 CH SCAN H, 2 P IN P H
CN6081 YELLOW: 1 VIDEO OUT, 2 S.OUT, 3 S.IN, 4 S.CLK, 5 AV, 6 MONO
CN1003 BLACK: 1 PIC CONTROL, 2 SWD 5V
CN1004 WHITE: 1 DIGITAL VIDEO, 2 GND, 3 THROUGH VIDEO, 4 AGC VIDEO, 5 GND, 6 SWM, 7 SRCE 1
SERVO
CN4002 WHITE: 1 CTL (+), 2 CTL (-), 3 GND
CN4006 (P): 1 RF.SW.P, 2 V.L.P, 3 COMP. SYNC, 4 FSC, 5 GND
8 MC-SERVO, 9 MC F/R, 10 GND (MC FG), 11 MC-FG1, 12 MC-FG2, 13 ALWAYS 13V(MC)
CN4003 RED: 1 TR VR (-), 2 TR VR (+), 3 SLOW TR VR (-), 4 SLOW TR VR (+)
CN4004 WHITE: 1 GND (MOTOR), 2 ALWAYS 13V(MH), 3 ALWAYS 13V(MC), 4 GND (MOTOR), 5 GND, 6 ALWAYS 5V, 7 POWER UP (LOW)
6 MC-SERVO, 5 MC F/R, 4 GND (MC FG), 3 MC-FG1, 2 MC-FG2, 1 ALWAYS 13V(MC)
1 ALWAYS 13V(MC), 2 MC-FG2, 3 MC-FG1, 4 GND (MC FG), 5 MC-F/R, 6 MC-SERVO, 7 GND (MC)
SV-4
PW-1 POWER SUPPLY
CN5102 (P): 1 GND, 2 ALWAYS 12V, 3 ALWAYS 5.8V, 4 ALWAYS 33V, 5 GND, 6 ALWAYS -30V
CN5103 (P): 1 SWD 12V, 2 SWD 5V(ANALOG), 3 SWD 5V(DIGITAL), 4 GND (ANALOG), 5 GND (DIGITAL)
CN5101 (P): 1 AC 4V, 2 AC 4V, 3 ALWAYS 5.8V, 4 GND, 5 ALWAYS 12V, 6 ALWAYS -30V, 7 GND (MOTOR), 8 ALWAYS 13V (MH), 9 ALWAYS 13V (MC), 10 GND (MOTOR), 11 GND, 12 ALWAYS 5V, 13 POWER UP (LOW)
DM-1 DM CONNECTION
CN8001 WHITE: 1 DIGITAL VIDEO, 2 GND, 3 THROUGH VIDEO, 4 AGC VIDEO, 5 GND, 6 SWM, 7 SRCE 1
CN8002 RED: 1 SWD 12V, 2 SWD 5V(ANALOG), 3 SWD 5V(DIGITAL), 4 GND (ANALOG), 5 GND (DIGITAL)
CN8004 YELLOW: 1 CH SCAN H, 2 P IN P H
CN8003 WHITE: 1 X.V.S, 2 FAW, 3 S.IN, 4 S.OUT, 5 S.CLK, 6 GND, 7 BUSY, 8 RESET, 9 CH SCAN E, 10 CH SCAN H
DM-2
DM-3
DM-4
DM-5
TM-5 SWITCH & VR
CN7502 (P): 1 TR VR (-), 2 TR VR (+), 3 SLOW TR VR(-), 4 SLOW TR VR(+)
CN7503 (P): 1 PIC.CONTROL, 2 SWD 5V
CN7501 (P): 1 G1, 2 KEY IN 3, 3 GND, 4 SWD 5V
TM-1 VPS & DIGITAL
CN7103 BLUE: 1 MODE 0, 2 MODE 1, 3 MODE 2, 4 MODE 3, 5 F.ADV.P, 6 SP/LP, 7 RF.SW.P, 8 RESET, 9 X.V.S
CN7102 (P): 1 X.V.S, 2 FAW, 3 S.OUT, 4 S.IN, 5 S.CLK, 6 GND, 7 BUSY, 8 RESET, 9 CH SCAN E, 10 CH SCAN H
CN7105 RED(L): 1 GND, 2 ALWAYS 12V, 3 ALWAYS 5V, 4 SCL, 5 SDA, 6 GND, 7 VIDEO IN
CN7104 WHITE(L): 1 ALWAYS 5V, 2 GND, 3 CH SCAN OK, 4 DIGITAL D4, 5 DIGITAL D3, 6 DIGITAL D2, 7 DIGITAL D1, 8 DIGITAL D0
TM-4 DISPLAY TIMER & KEY SWITCH
CN7405 WHITE: 1 G1, 2 KEY IN 3, 3 GND, 4 SWD 5V
CN7401 WHITE: 1 AC 4V, 2 AC 4V, 3 ALWAYS 5.8V, 4 GND, 5 ALWAYS 12V, 6 ALWAYS -30V
CN7403 BLACK: 1 S.CLK, 2 S.OUT, 3 S.IN, 4 GND, 5 SWD 5V
CN7402 YELLOW: 1 VIDEO IN, 2 S.IN, 3 S.OUT, 4 S.CLK, 5 AV, 6 MONO
CN7404 (P): 1 GND, 2 ALWAYS 12V, 3 ALWAYS 5V, 4 SCL, 5 SDA, 6 GND, 7 VIDEO OUT
CN7411 (P): 1 ALWAYS 5V, 2 GND, 3 CH SCAN OK, 4 DIGITAL D4, 5 DIGITAL D3, 6 DIGITAL D2, 7 DIGITAL D1, 8 DIGITAL D0
CN7412: 19 KEY IN 7, 18 KEY IN 5, 17 G6, 16 G7, 15 G8, 14 G6, 13 G5, 12 G9, 11 KEY IN 3, 10 KEY IN 4, 9 G5, 8 G3, 7 G4, 6 KEY IN 6, 5 G4, 4 G3, 3 G1, 2 G2, 1 N.C.
SPECIAL.SW

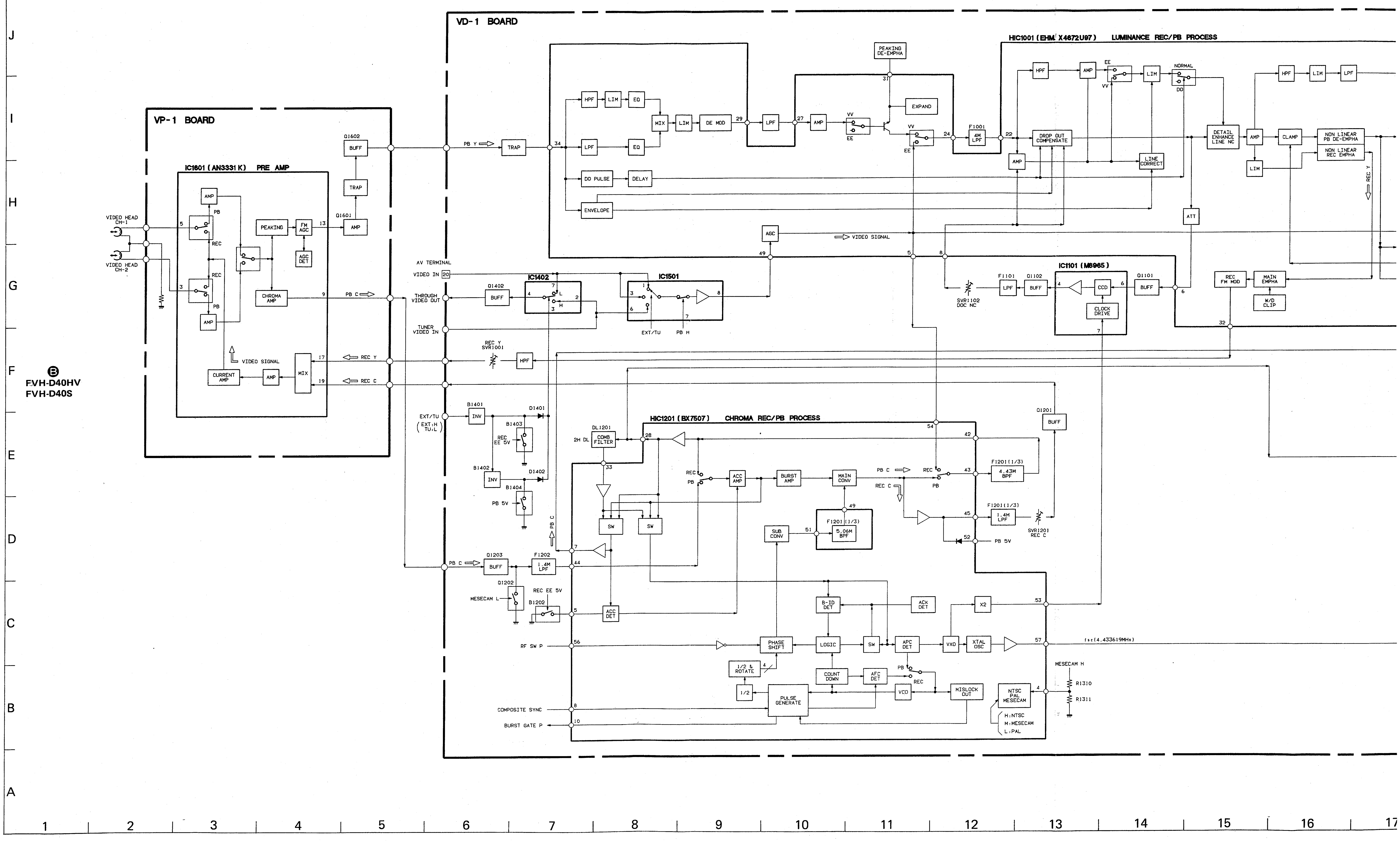
P.C.B. MC-2 CONNECTION CIRCUIT (143-0-233V-26750)


MC-2
CN3552: 1 GND(MH), 2 MH-SERVO, 3 ALWAYS 13V(MH), 4 MH-FG, 5 GND, 6 MH-PG
TO SV-5 CN4451
CN3554: 1 ALWAYS 13V(MC), 2 MC-FG2, 3 MC-FG1, 4 GND(MC-FG), 5 MC-F/R, 6 MC-SERVO, 7 GND(MC)
TO SV-4 CN4401
CN3551: 1 SW DATA 1, 2 SW DATA 0, 3 SW DATA 2, 4 ALWAYS 5V, 5 S.REEL SENSOR, 6 GND, 7 SWD 5V, 8 T.REEL SENSOR
TO MC-1 CN3501
CN3556: 1 DEW SENSOR, 2 GND
TO DEW SENSOR
CN3555: 1 GND, 2 EP SW, 3 FUL END SW, 4 FL END SW, 5 T END SENSOR, 6 T TOP SENSOR
TO MC-5 CN3701
CN3557: 13 GND(MH), 12 MH-SERVO, 11 ALWAYS 13V(MH), 10 MH-FG, 9 GND, 8 MH-PG, 7 GND(MC), 6 MC-SERVO, 5 MC-F/R, 4 GND (MC-FG), 3 MC-FG1, 2 MC-FG2, 1 ALWAYS 13V(MC)
TO SY-1 CN4001
CN3553: 1 MTL ⊖, 2 MTL ⊕
TO MC-4 CN3651
CN3558: 17 MTL ⊖, 16 MTL ⊕, 15 SW DATA 1, 14 SW DATA 0, 13 SW DATA 2, 12 ALWAYS 5V, 11 S.REEL SENSOR, 10 GND, 9 SWD 5V, 8 T.REEL SENSOR, 7 DEW SENSOR, 6 GND, 5 EP SW, 4 FUL END SW, 3 FL END SW, 2 T END SENSOR, 1 T TOP SENSOR
TO SY-1 CN3001

Ⓐ
FVH-D40HV
FVH-D40S

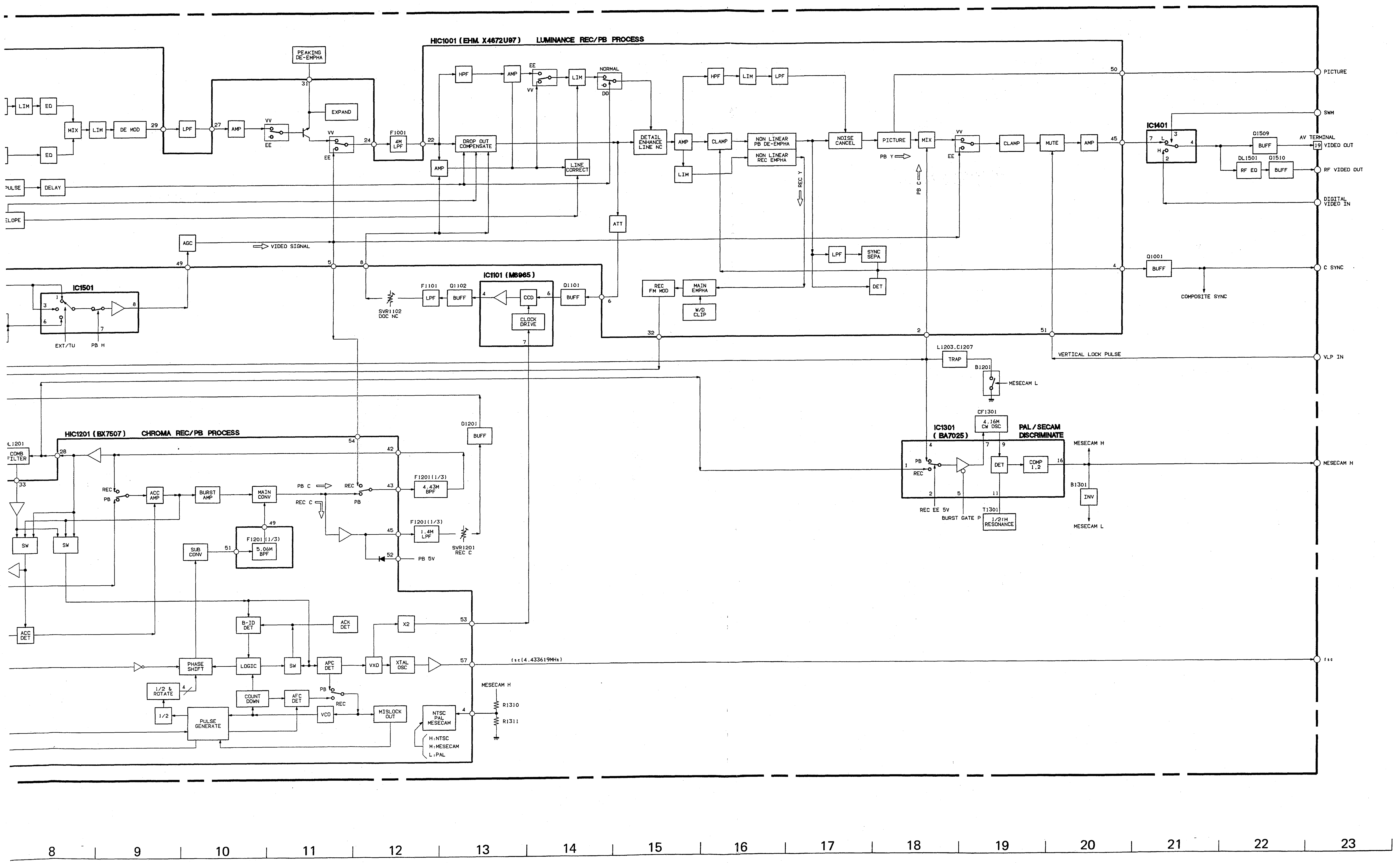
8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23

VIDEO CIRCUIT BLOCK DIAGRAM

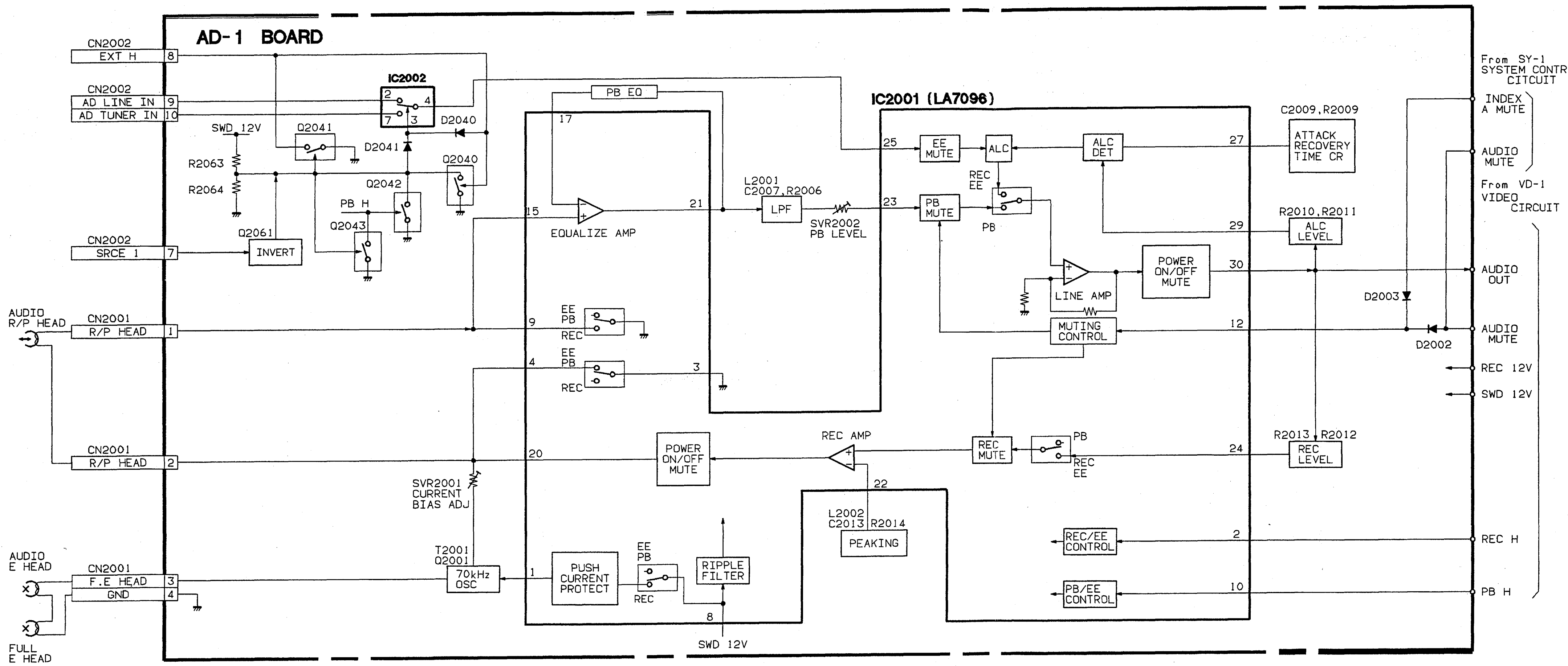

K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
VP-1 BOARD
IC1601 (AN3331K) PRE AMP
VIDEO HEAD CH-1
VIDEO HEAD CH-2
AMP
PB
REC
PEAKING
FM AGC
AGC DET
CHROMA AMP
CURRENT AMP
MIX
VIDEO SIGNAL
Q1602
BUFF
TRAP
Q1601
PB C
REC Y
REC C
VD-1 BOARD
PB Y
34
HPF
LIM
EQ
LPF
MIX
DE MOD
29
27
DO PULSE
DELAY
ENVELOPE
PEAKING DE-EMPHA
31
EXPAND
VV
EE
24
F1001
4M LPF
22
AGC
VIDEO SIGNAL
49
5
8
HIC1001 (EHM X4672U97) LUMINANCE REC/PB PROCESS
DROP OUT COMPENSATE
LINE CORRECT
NORMAL
DO
DETAIL ENHANCE LINE NC
CLAMP
NON LINEAR PB DE-EMPHA
NON LINEAR REC EMPHA
ATT
REC Y
AV TERMINAL
VIDEO IN
20
THROUGH VIDEO OUT
TUNER VIDEO IN
IC1402
Q1402
IC1501
EXT/TU
PB H
REC Y SVR1001
IC1101 (M6965)
F1101
Q1102
CCD
CLOCK DRIVE
Q1101
SVR1102 DOC NC
REC FM MOD
MAIN EMPHA
W/D CLIP
32
EXT/TU
(EXT:H TU:L)
B1401
INV
D1401
B1403
REC EE 5V
B1402
D1402
B1404
PB 5V
PB C
DL1201
2H DL
COMB FILTER
HIC1201 (BX7507) CHROMA REC/PB PROCESS
28
33
54
42
ACC AMP
BURST AMP
MAIN CONV
43
F1201 (1/3)
4.43M BPF
45
1.4M LPF
52
SVR1201 REC C
Q1201
F1201 (1/3) 5.06M BPF
51
SUB CONV
SW
7
44
Q1203
F1202
MESECAM L
Q1202
B1202
ACC DET
B-ID DET
ACK DET
X2
53
RF SW P
56
PHASE SHIFT
LOGIC
APC DET
VXO
XTAL OSC
57
fsc (4.433619MHz)
1/2 & ROTATE
COUNT DOWN
AFC DET
VCO
MISLOCK OUT
NTSC PAL MESECAM
H:NTSC
M:MESECAM
L:PAL
MESECAM H
R1310
R1311
1/2
PULSE GENERATE
COMPOSITE SYNC
BURST GATE P
10

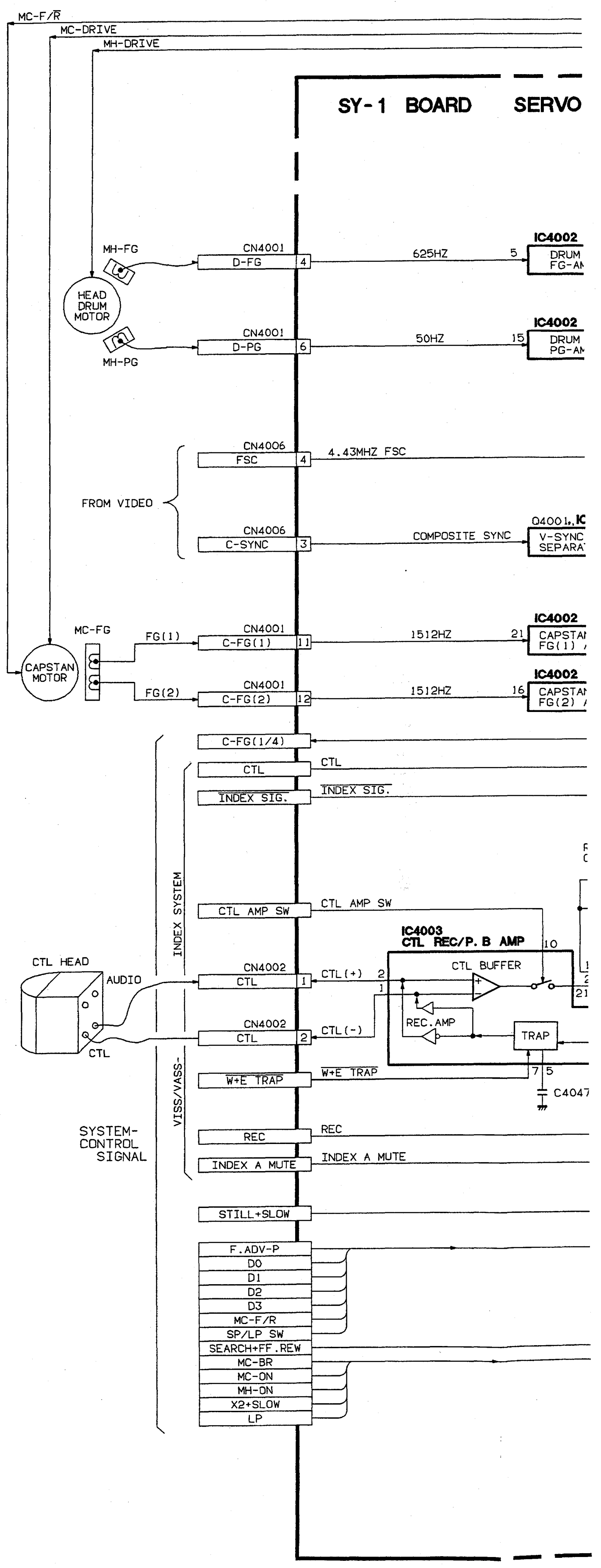
FVH-D40HV
FVH-D40S

VIDEO CIRCUIT BLOCK DIAGRAM

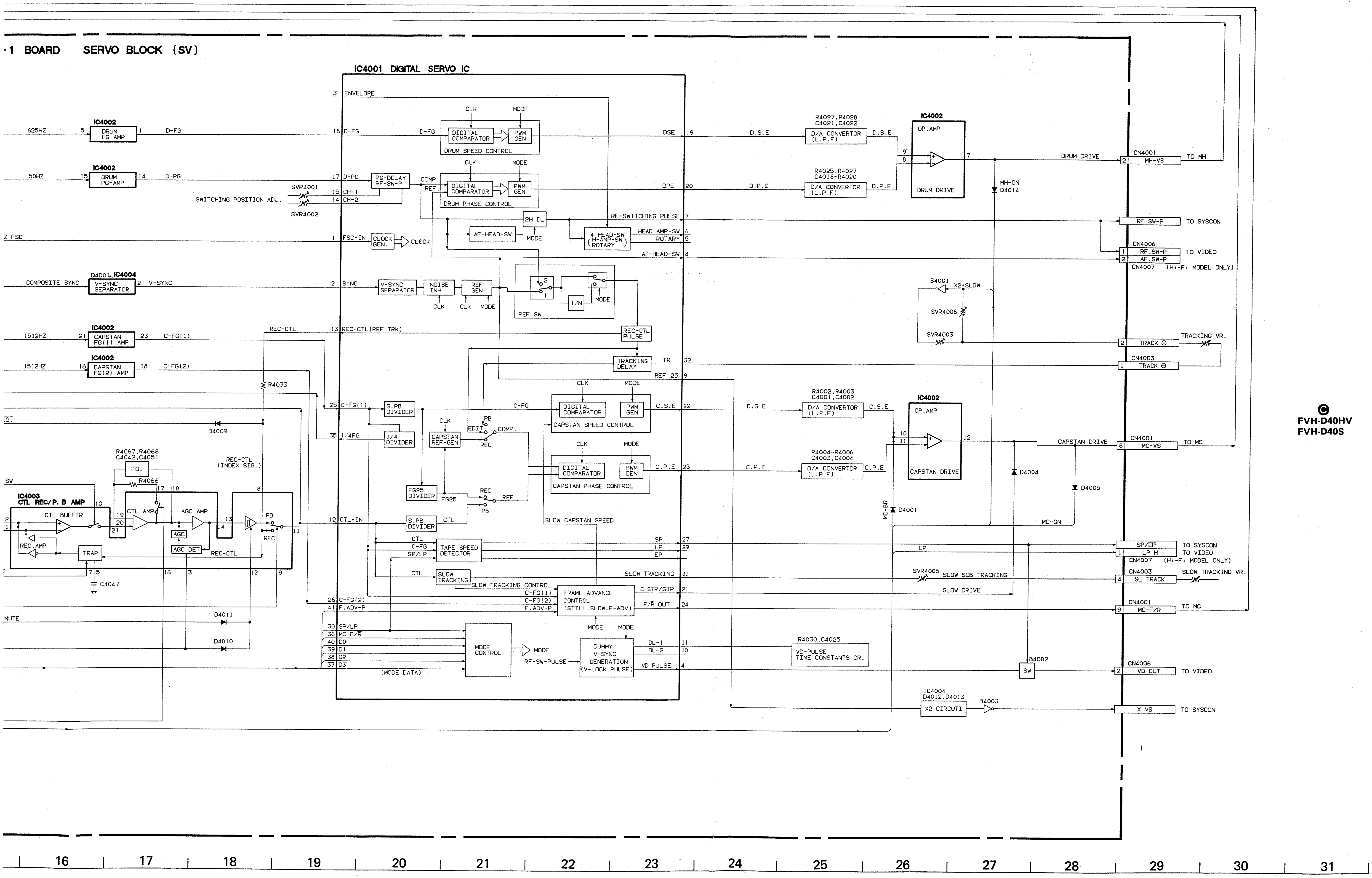

HIC1001 (EHM. X4672U97) LUMINANCE REC/PB PROCESS
PEAKING DE-EMPHA
LIM
EQ
MIX
LIM
DE MOD
29
LPF
27
AMP
VV
EE
31
EXPAND
VV
EE
24
F1001 4M LPF
22
HPF
AMP
EE
VV
LIM
NORMAL
DO
DROP OUT COMPENSATE
AMP
LINE CORRECT
DETAIL ENHANCE LINE NC
AMP
LIM
HPF
LIM
LPF
CLAMP
NON LINEAR PB DE-EMPHA
NON LINEAR REC EMPHA
NOISE CANCEL
PICTURE
PB Y
MIX
VV
EE
CLAMP
MUTE
AMP
50
45
REC Y
PB C
PULSE
DELAY
ELOPE
ATT
AGC
VIDEO SIGNAL
49
5
8
LPF
SYNC SEPA
DET
REC FM MOD
MAIN EMPHA
W/D CLIP
4
IC1101 (M6965)
F1101 LPF
Q1102 BUFF
CCD
CLOCK DRIVE
Q1101 BUFF
6
7
SVR1102 DOC NC
IC1501
3
6
8
7
EXT/TU
PB H
32
2
51
IC1401
7
L
H
3
4
2
D1509 BUFF
DL1501 RF EQ
D1510 BUFF
AV TERMINAL
PICTURE
SWM
19 VIDEO OUT
RF VIDEO OUT
DIGITAL VIDEO IN
Q1001 BUFF
C SYNC
COMPOSITE SYNC
VERTICAL LOCK PULSE
VLP IN
L1203.C1207 TRAP
B1201
MESECAM L
CF1301 4.16M CW OSC
IC1301 (BA7025)
PAL / SECAM DISCRIMINATE
PB
REC
1
4
7
9
DET
COMP 1.2
16
2
5
11
REC EE 5V
BURST GATE P
T1301 1/2fH RESONANCE
MESECAM H
B1301 INV
MESECAM L
MESECAM H
HIC1201 (BX7507) CHROMA REC/PB PROCESS
DL1201 COMB FILTER
28
33
54
42
REC
PB
ACC AMP
BURST AMP
MAIN CONV
PB C
REC C
REC
PB
43
F1201(1/3) 4.43M BPF
D1201 BUFF
49
F1201 (1/3) 5.06M BPF
51
SUB CONV
45
F1201(1/3) 1.4M LPF
SVR1201 REC C
52
PB 5V
SW
SW
ACC DET
B-ID DET
ACK DET
X2
53
PHASE SHIFT
LOGIC
SW
APC DET
VXO
XTAL OSC
57
fsc(4.433619MHz)
fsc
1/2 & ROTATE
4
1/2
COUNT DOWN
AFC DET
PB
REC
VCO
MISLOCK OUT
PULSE GENERATE
NTSC PAL MESECAM
4
H:NTSC
M:MESECAM
L:PAL
MESECAM H
R1310
R1311
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

AUDIO CIRCUIT BLOCK DIAGRAM


AD-1 BOARD
CN2002 EXT H 8
CN2002 AD LINE IN 9
AD TUNER IN 10
IC2002
SWD 12V
Q2041
D2040
D2041
Q2040
R2063
R2064
Q2042
PB H
Q2043
Q2061
CN2002 SRCE 1 7
INVERT
AUDIO R/P HEAD
CN2001 R/P HEAD 1
CN2001 R/P HEAD 2
AUDIO E HEAD
CN2001 F.E HEAD 3
GND 4
FULL E HEAD
PB EQ
EQUALIZE AMP
EE PB REC
L2001 C2007,R2006
LPF
SVR2002 PB LEVEL
IC2001 (LA7096)
EE MUTE
ALC
ALC DET
REC EE
PB MUTE
PB
ATTACK RECOVERY TIME CR
C2009,R2009
R2010,R2011
ALC LEVEL
LINE AMP
POWER ON/OFF MUTE
MUTING CONTROL
REC MUTE
REC AMP
R2013 R2012
REC LEVEL
SVR2001 CURRENT BIAS ADJ
T2001 Q2001
70kHz OSC
PUSH CURRENT PROTECT
RIPPLE FILTER
L2002 C2013 R2014
PEAKING
REC/EE CONTROL
PB/EE CONTROL
SWD 12V
D2003
D2002
From SY-1 SYSTEM CONTROL CITCUIT
INDEX A MUTE
AUDIO MUTE
From VD-1 VIDEO CIRCUIT
AUDIO OUT
AUDIO MUTE
REC 12V
SWD 12V
REC H
PB H

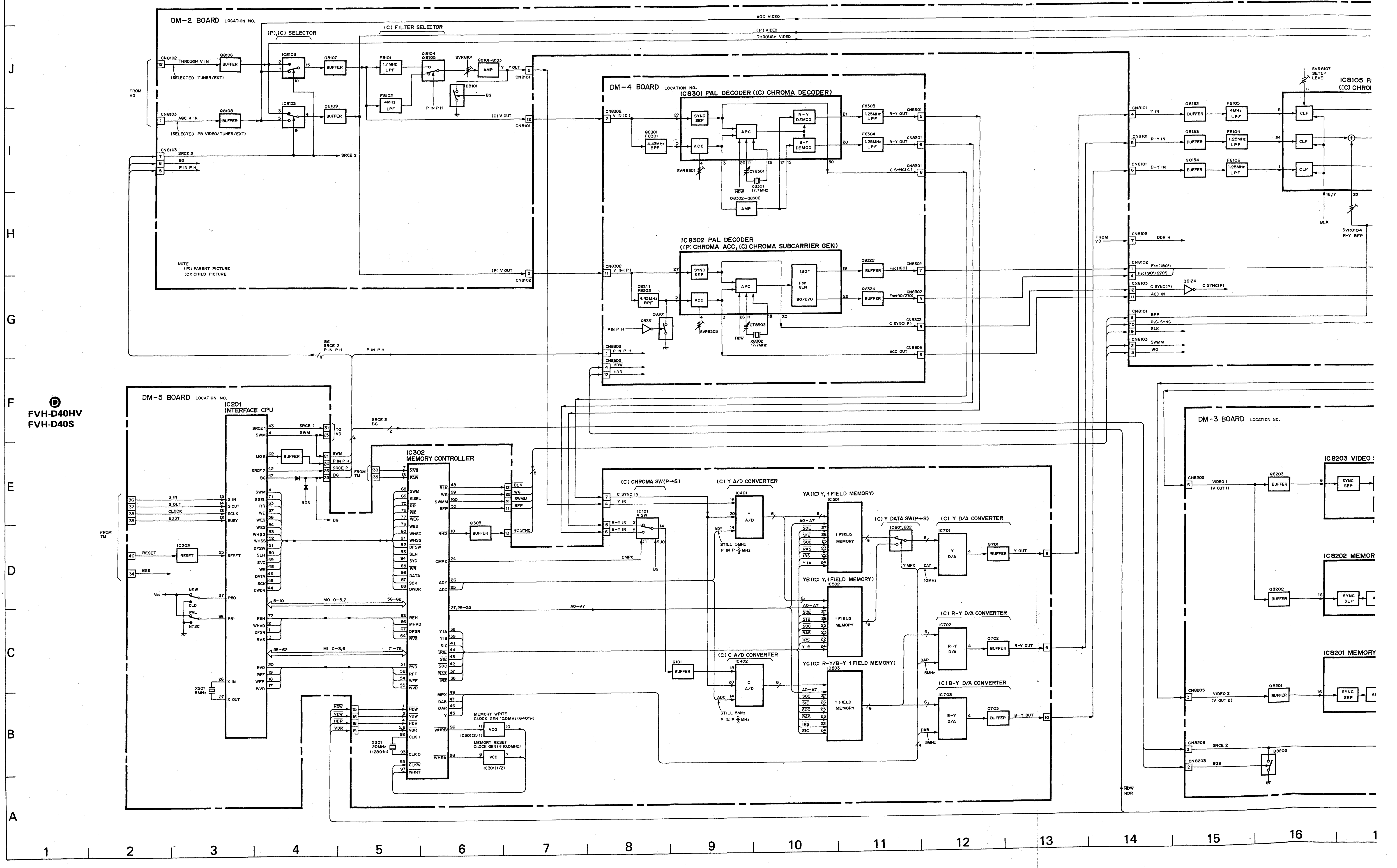

MC-F/R̄
MC-DRIVE
MH-DRIVE
SY-1 BOARD SERVO
MH-FG
HEAD DRUM MOTOR
MH-PG
CN4001 D-FG 4
625HZ
IC4002 DRUM FG-AM
CN4001 D-PG 6
50HZ
IC4002 DRUM PG-AM
FROM VIDEO
CN4006 FSC 4
4.43MHZ FSC
CN4006 C-SYNC 3
COMPOSITE SYNC
Q4001 V-SYNC SEPARA
MC-FG
CAPSTAN MOTOR
FG(1)
FG(2)
CN4001 C-FG(1) 11
CN4001 C-FG(2) 12
1512HZ
IC4002 CAPSTAN FG(1)
IC4002 CAPSTAN FG(2)
C-FG(1/4)
CTL
INDEX SIG.
INDEX SYSTEM
CTL AMP SW
CTL HEAD
AUDIO
CTL
CN4002 CTL 1
CN4002 CTL 2
CTL(+)
CTL(-)
IC4003 CTL REC/P.B AMP
CTL BUFFER
REC.AMP
TRAP
C4047
VISS/VASS
W+E TRAP
SYSTEM-CONTROL SIGNAL
REC
INDEX A MUTE
STILL+SLOW
F.ADV-P
D0
D1
D2
D3
MC-F/R
SP/LP SW
SEARCH+FF.REW
MC-BR
MC-ON
MH-ON
X2+SLOW
LP

SERVO CIRCUIT BLOCK DIAGRAM


·1 BOARD SERVO BLOCK (SV)
IC4001 DIGITAL SERVO IC
3 ENVELOPE
625HZ
IC4002
DRUM FG-AMP
D-FG
18 D-FG
CLK
MODE
DIGITAL COMPARATOR
PWM GEN
DRUM SPEED CONTROL
DSE 19
D.S.E
R4027,R4028 C4021,C4022
D/A CONVERTOR (L.P.F)
IC4002
OP.AMP
DRUM DRIVE
50HZ
DRUM PG-AMP
D-PG
17 D-PG
PG-DELAY RF-SW-P
SVR4001
SVR4002
15 CH-1
14 CH-2
SWITCHING POSITION ADJ.
COMP.
REF.
DRUM PHASE CONTROL
DPE 20
D.P.E
R4025,R4027 C4018~R4020
2H DL
RF-SWITCHING PULSE 7
AF-HEAD-SW
4 HEAD-SW (H-AMP-SW) ROTARY
HEAD AMP-SW 6
ROTARY 5
AF-HEAD-SW 8
FSC
1 FSC-IN
CLOCK GEN.
CLOCK
COMPOSITE SYNC
Q4001,IC4004
V-SYNC SEPARATOR
V-SYNC
2 SYNC
NOISE INH
REF GEN
REF SW
1/N
1512HZ
CAPSTAN FG(1) AMP
C-FG(1)
REC-CTL
13 REC-CTL(REF TRK)
REC-CTL PULSE
CAPSTAN FG(2) AMP
C-FG(2)
TRACKING DELAY
TR 32
REF 25 9
R4033
25 C-FG(1)
S.PB DIVIDER
C-FG
DIGITAL COMPARATOR
CAPSTAN SPEED CONTROL
C.S.E 22
R4002,R4003 C4001,C4002
D/A CONVERTOR (L.P.F)
35 1/4FG
1/4 DIVIDER
CAPSTAN REF-GEN
EDIT
PB
COMP.
REC
CAPSTAN PHASE CONTROL
C.P.E 23
R4004~R4006 C4003,C4004
CAPSTAN DRIVE
D4009
R4067,R4068 C4042,C4051
EQ.
R4066
REC-CTL (INDEX SIG.)
IC4003 CTL REC/P.B AMP
CTL BUFFER
CTL AMP
AGC AMP
AGC
AGC DET
REC.AMP
TRAP
C4047
FG25 DIVIDER
FG25
REF
12 CTL-IN
S.PB DIVIDER
CTL
SLOW CAPSTAN SPEED
TAPE SPEED DETECTOR
SP 27
LP 29
EP
SP/LP
SLOW TRACKING
SLOW TRACKING 31
SLOW TRACKING CONTROL
FRAME ADVANCE CONTROL (STILL.SLOW.F-ADV)
C-STR/STP 21
F/R OUT 24
26 C-FG(2)
41 F.ADV-P
MUTE
D4011
D4010
30 SP/LP
36 MC-F/R
40 D0
39 D1
38 D2
37 D3
(MODE DATA)
MODE CONTROL
MODE
RF-SW-PULSE
DUMMY V-SYNC GENERATION (V-LOCK PULSE)
DL-1 11
DL-2 10
VD PULSE 4
R4030,C4025
VD-PULSE TIME CONSTANTS CR.
MH-ON
D4014
DRUM DRIVE
CN4001
MH-VS
TO MH
RF SW-P
TO SYSCON
CN4006
RF.SW-P
AF.SW-P
TO VIDEO
CN4007 (Hi-Fi MODEL ONLY)
B4001
X2 SLOW
SVR4006
SVR4003
TRACK ⊕
TRACK ⊖
TRACKING VR.
CN4003
CAPSTAN DRIVE
MC-VS
TO MC
D4004
D4005
MC-BR
D4001
MC-ON
LP
SP/LP
LP H
TO SYSCON
TO VIDEO
SVR4005
SLOW SUB TRACKING
SL TRACK
SLOW TRACKING VR.
SLOW DRIVE
MC-F/R
TO MC
B4002
SW
VD-OUT
TO VIDEO
IC4004 D4012,D4013
X2 CIRCUTI
B4003
X VS
TO SYSCON
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31

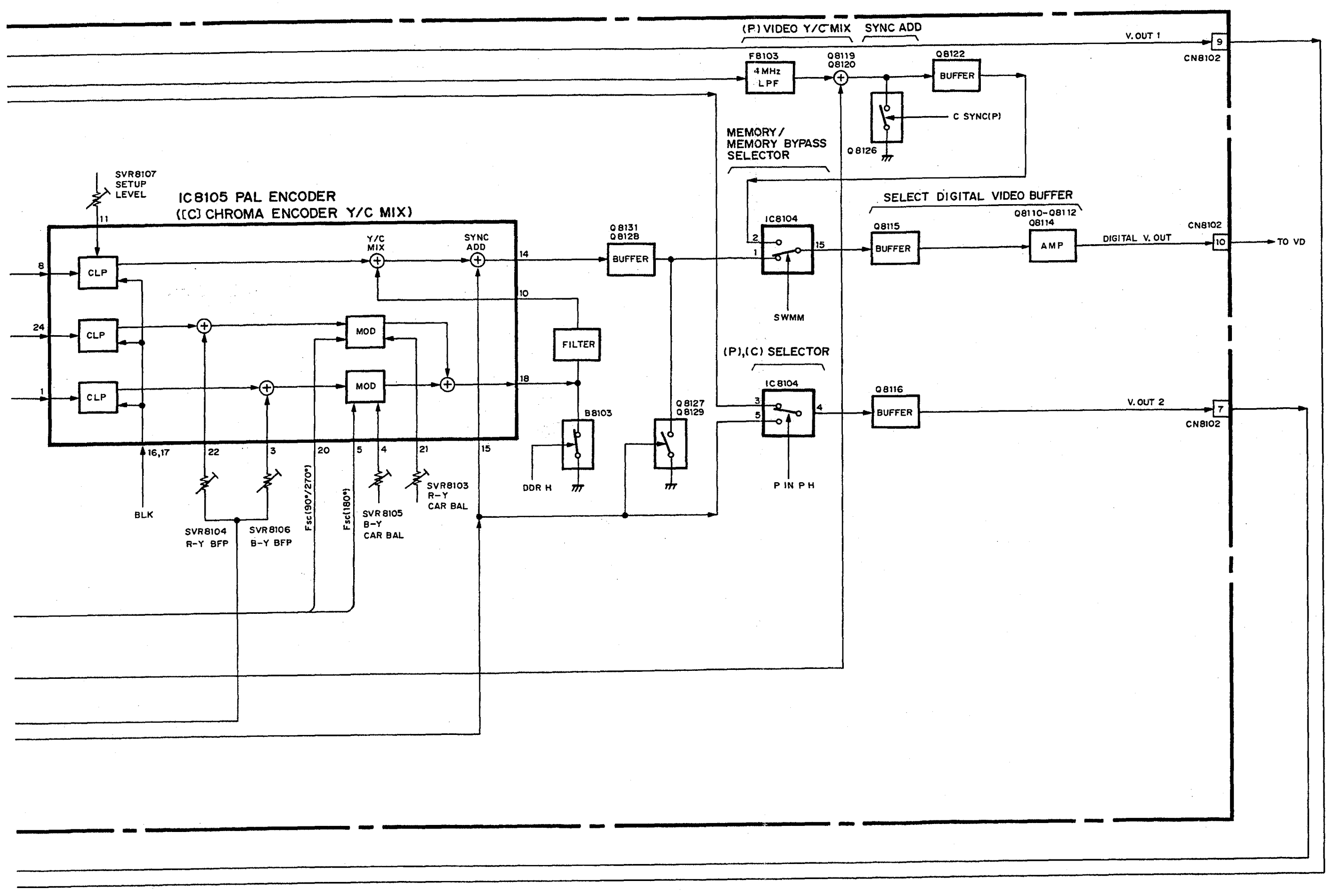
Ⓒ
FVH-D40HV
FVH-D40S

DIGITAL PROCESSING CIRCUIT BLOCK DIAGRAM

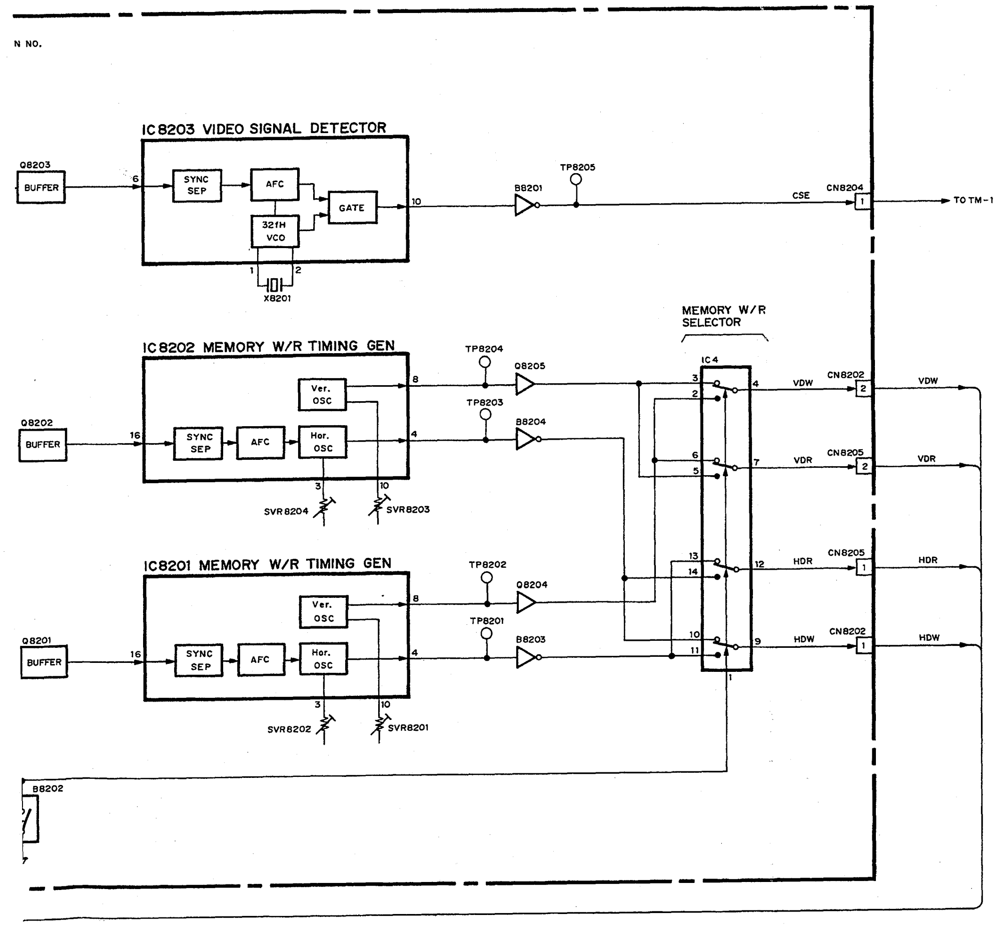


K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
DM-2 BOARD LOCATION NO.
(P),(C) SELECTOR
(C) FILTER SELECTOR
AGC VIDEO
(P) VIDEO
THROUGH VIDEO
FROM VD
CN8102
THROUGH V IN
(SELECTED TUNER/EXT)
CN8103
AGC V IN
(SELECTED PB VIDEO/TUNER/EXT)
Q8106
BUFFER
Q8108
BUFFER
IC8103
Q8107
BUFFER
Q8109
BUFFER
F8101
1.7MHz LPF
F8102
4MHz LPF
Q8104 Q8105
SVR8101
Q8101–8103
AMP
Y OUT
B8101
BG
P IN P H
(C) V OUT
(P) V OUT
CN8101
CN8102
SRCE 2
BG
P IN P H
NOTE
(P): PARENT PICTURE
(C): CHILD PICTURE
DM-4 BOARD LOCATION NO.
IC8301 PAL DECODER ((C) CHROMA DECODER)
CN8302
V IN (C)
Q8301
F8301
4.43MHz BPF
SYNC SEP
ACC
APC
R-Y DEMOD
B-Y DEMOD
SVR8301
CT8301
X8301 17.7MHz
HDW
Q8302–Q8306
AMP
F8303
1.25MHz LPF
F8304
1.25MHz LPF
R-Y OUT
B-Y OUT
C SYNC (C)
CN8301
IC8302 PAL DECODER
((P) CHROMA ACC, (C) CHROMA SUBCARRIER GEN)
V IN (P)
Q8311
F8302
4.43MHz BPF
SYNC SEP
ACC
APC
180° Fsc GEN 90/270
SVR8303
CT8302
X8302 17.7MHz
Q8322
BUFFER
Q8324
BUFFER
Fsc(180)
Fsc(90/270)
C SYNC (P)
ACC OUT
CN8302
CN8303
Q8331
Q8301
P IN P H
CN8303
HDW
HDR
BG
SRCE 2
P IN P H
DM-5 BOARD LOCATION NO.
IC201
INTERFACE CPU
SRCE 1
SWM
MO 6
BUFFER
SRCE 2
BG
BGS
SWM
P IN P H
SRCE 2
BG
TO VD
FROM TM
S IN
S OUT
CLOCK
BUSY
SCLK
RESET
IC202
RESET
BGS
FROM TM
GSEL
RR
WE
WEG
WES
WHSS
DFSW
SLH
SVC
WR
DATA
SCK
DWDR
NEW
OLD
PAL
NTSC
P50
P51
Vcc
REH
MHVD
DFSR
RVS
MO 0–5,7
MI 0–3,6
RVD
RFF
WFF
WVD
X201 8MHz
X IN
X OUT
IC302
MEMORY CONTROLLER
XVS
FAW
BLK
WG
SWMM
BFP
RHD
Q303
BUFFER
RC SYNC
CMPX
ADY
ADC
A0–A7
YIA
YIB
SIC
SOE
SIE
SOC
RAS
IRS
MPX
DAB
DAR
Y
HDW
VDW
HDR
VDR
CLK I
CLK O
CLKW
WHRT
WHRB
WHRA
X301 20MHz (1280fH)
MEMORY WRITE CLOCK GEN 10.0MHz (640fH)
VCO
IC301(2/1)
MEMORY RESET CLOCK GEN (≒10.0MHz)
VCO
IC301(1/2)
(C) CHROMA SW(P→S)
C SYNC IN
Y IN
R-Y IN
B-Y IN
IC101
A SW
BG
(C) Y A/D CONVERTER
IC401
Y A/D
STILL 5MHz
P IN P 5/3 MHz
Q101
BUFFER
(C) C A/D CONVERTER
IC402
C A/D
YA ((C) Y, 1 FIELD MEMORY)
IC501
1 FIELD MEMORY
YB ((C) Y, 1 FIELD MEMORY)
IC502
1 FIELD MEMORY
YC ((C) R-Y/B-Y 1 FIELD MEMORY)
IC503
1 FIELD MEMORY
(C) Y DATA SW(P→S)
IC601,602
Y MPX
DAY
10MHz
(C) Y D/A CONVERTER
IC701
Y D/A
Q701
BUFFER
Y OUT
(C) R-Y D/A CONVERTER
IC702
R-Y D/A
Q702
BUFFER
R-Y OUT
DAR
5MHz
(C) B-Y D/A CONVERTER
IC703
B-Y D/A
Q703
BUFFER
B-Y OUT
DAB
5MHz
HDW
HDR
CN8101
Y IN
R-Y IN
B-Y IN
Q8132
BUFFER
Q8133
BUFFER
Q8134
BUFFER
F8105
4MHz LPF
F8104
1.25MHz LPF
F8106
1.25MHz LPF
SVR8107
SETUP LEVEL
IC8105 P
(C) CHRO
CLP
CLP
CLP
BLK
SVR8104
R-Y BFP
FROM VD
CN8103
DDR H
CN8102
Fsc(180°)
Fsc(90°/270°)
CN8103
C SYNC(P)
ACC IN
Q8124
C SYNC(P)
CN8101
BFP
R.C.SYNC
BLK
CN8103
SWMM
WG
DM-3 BOARD LOCATION NO.
IC8203 VIDEO
CN8205
VIDEO 1
(V OUT 1)
Q8203
BUFFER
SYNC SEP
IC8202 MEMOR
Q8202
BUFFER
SYNC SEP
IC8201 MEMORY
CN8205
VIDEO 2
(V OUT 2)
Q8201
BUFFER
SYNC SEP
CN8203
SRCE 2
CN8203
BGS
B8202

D
FVH-D40HV
FVH-D40S

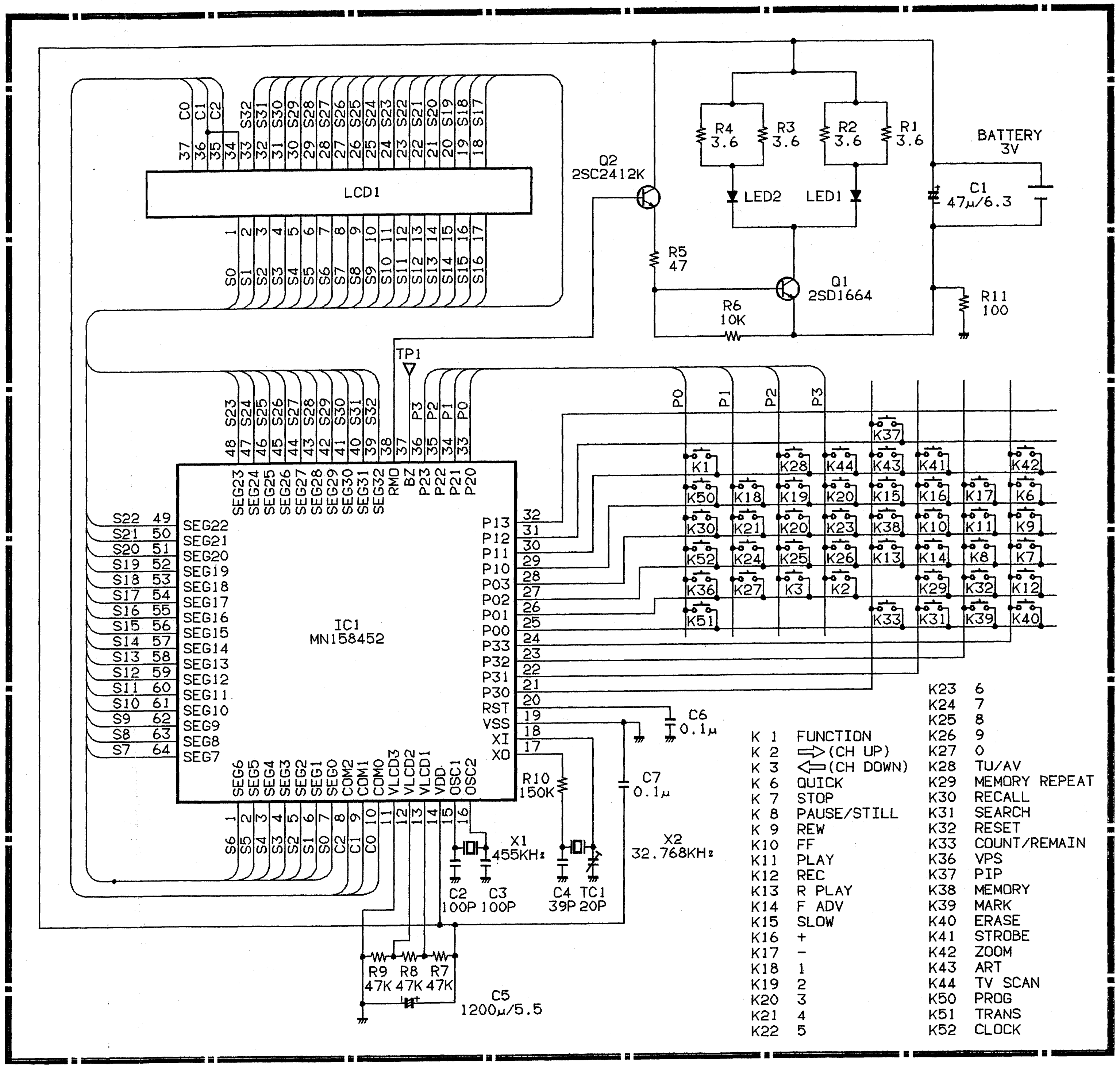


(P) VIDEO Y/C MIX
SYNC ADD
V. OUT 1
CN8102
F8103 4MHz LPF
Q8119 Q8120
Q8122 BUFFER
C SYNC(P)
Q8126
MEMORY/ MEMORY BYPASS SELECTOR
IC8104
SWMM
SELECT DIGITAL VIDEO BUFFER
Q8115 BUFFER
Q8110-Q8112 Q8114 AMP
DIGITAL V. OUT
TO VD
(P),(C) SELECTOR
Q8116 BUFFER
V. OUT 2
P IN P H
SVR8107 SETUP LEVEL
IC8105 PAL ENCODER
((C) CHROMA ENCODER Y/C MIX)
Y/C MIX
SYNC ADD
CLP
MOD
Q8131 Q8128 BUFFER
FILTER
B8103
DDR H
Q8127 Q8129
BLK
SVR8104 R-Y BFP
SVR8106 B-Y BFP
Fsc(90°/270°)
Fsc(180°)
SVR8105 B-Y CAR BAL
SVR8103 R-Y CAR BAL



N NO.
IC8203 VIDEO SIGNAL DETECTOR
Q8203 BUFFER
SYNC SEP
AFC
32fH VCO
GATE
X8201
TP8205
B8201
CSE
CN8204
TO TM-1
MEMORY W/R SELECTOR
IC8202 MEMORY W/R TIMING GEN
Q8202 BUFFER
Ver. OSC
Hor. OSC
SVR8204
SVR8203
TP8204
Q8205
TP8203
B8204
IC4
VDW
CN8202
VDR
CN8205
HDR
HDW
IC8201 MEMORY W/R TIMING GEN
Q8201 BUFFER
SVR8202
SVR8201
TP8202
Q8204
TP8201
B8203
B8202

IR REMOTE CONTROL CIRCUIT (143-9-4100-69200)



LCD1
IC1 MN158452
Q2 2SC2412K
Q1 2SD1664
R4 3.6
R3 3.6
R2 3.6
R1 3.6
LED2
LED1
BATTERY 3V
C1 47μ/6.3
R5 47
R6 10K
R11 100
TP1
C6 0.1μ
C7 0.1μ
R10 150K
X1 455KHz
X2 32.768KHz
C2 100P
C3 100P
C4 39P
TC1 20P
R9 47K
R8 47K
R7 47K
C5 1200μ/5.5
P0
P1
P2
P3

K 1	FUNCTION	K23	6
K 2	⇨(CH UP)	K24	7
K 3	⇦(CH DOWN)	K25	8
K 6	QUICK	K26	9
K 7	STOP	K27	0
K 8	PAUSE/STILL	K28	TU/AV
K 9	REW	K29	MEMORY REPEAT
K10	FF	K30	RECALL
K11	PLAY	K31	SEARCH
K12	REC	K32	RESET
K13	R PLAY	K33	COUNT/REMAIN
K14	F ADV	K36	VPS
K15	SLOW	K37	PIP
K16	+	K38	MEMORY
K17	-	K39	MARK
K18	1	K40	ERASE
K19	2	K41	STROBE
K20	3	K42	ZOOM
K21	4	K43	ART
K22	5	K44	TV SCAN
		K50	PROG
		K51	TRANS
		K52	CLOCK

K

J

I

H

G

F

E

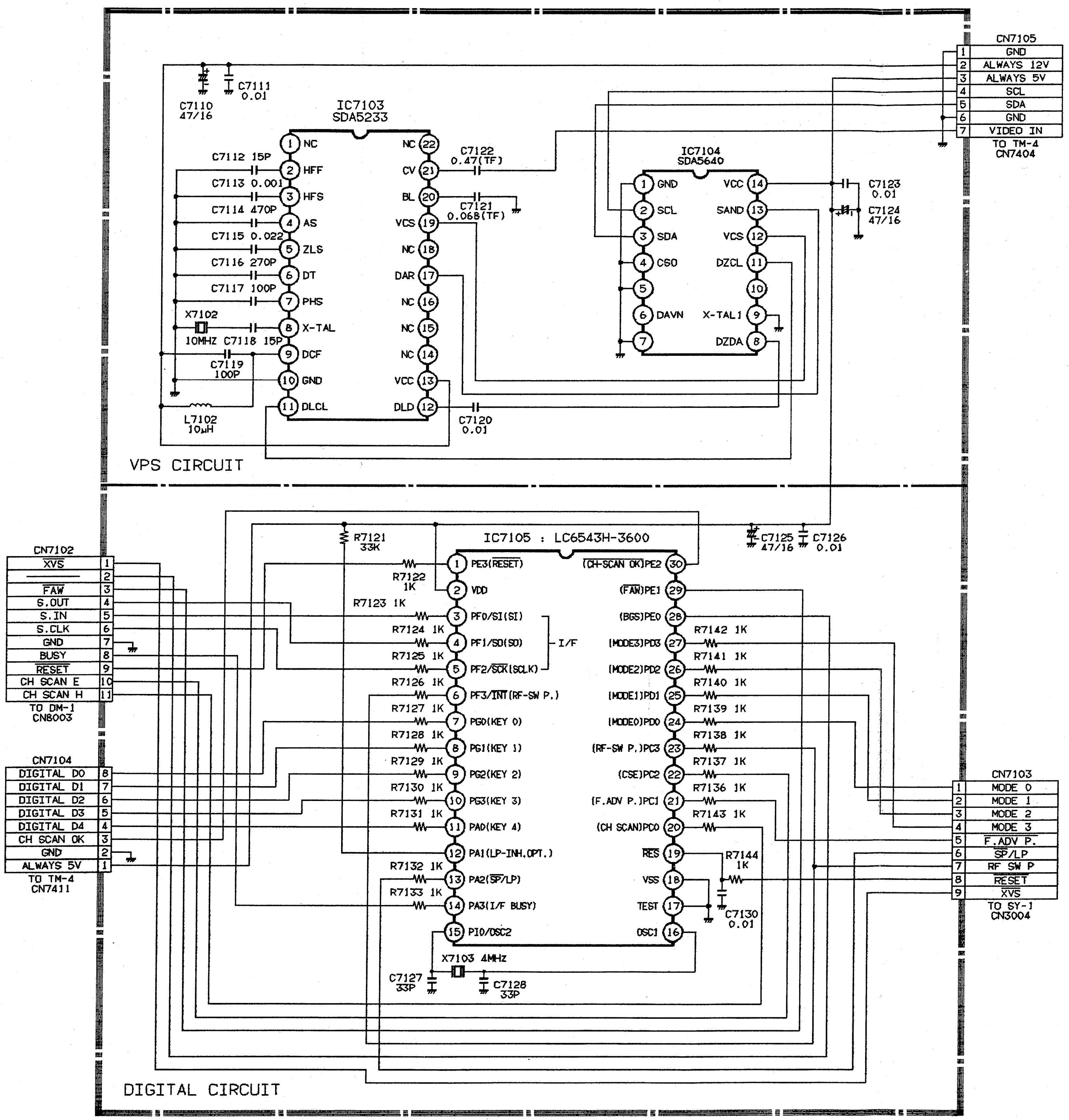
D

C

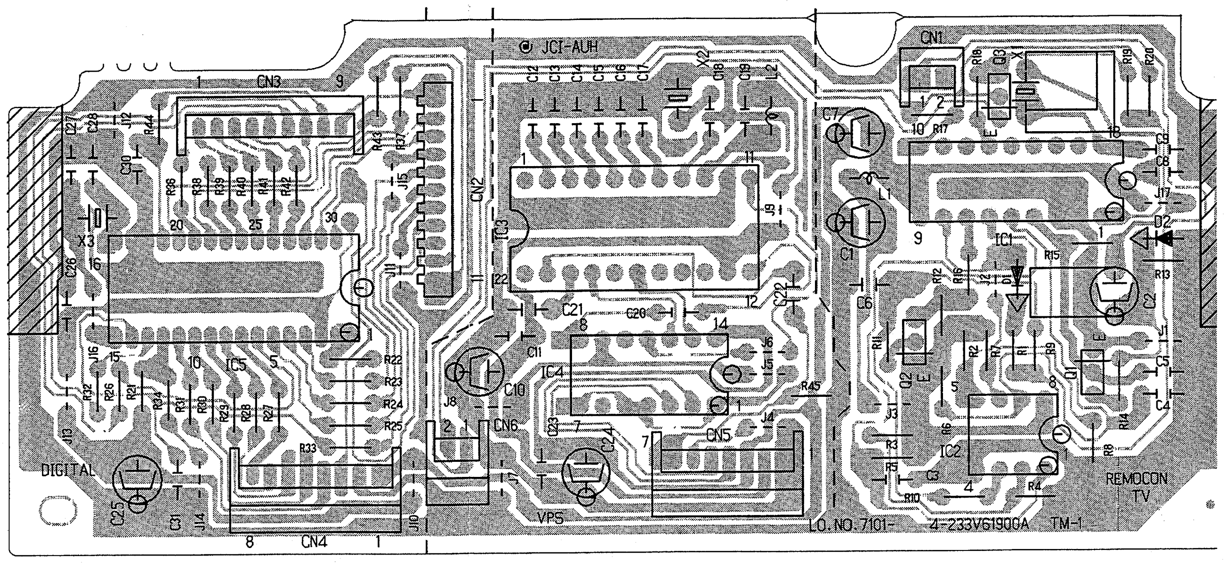
B

A

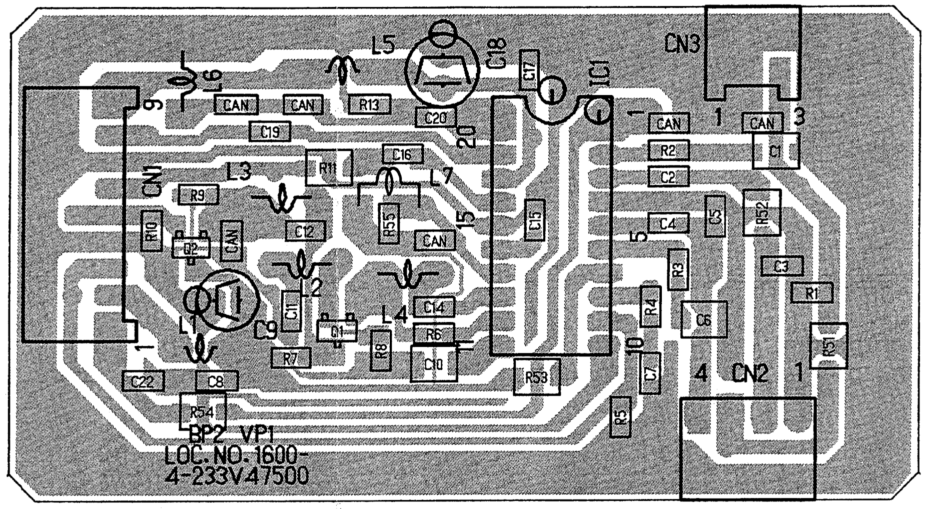
P.C.B. TM-1 VPS & DIGITAL CIRCUIT (West Germany 143-0-233V-61900) (Europe 143-0-233V-61923)

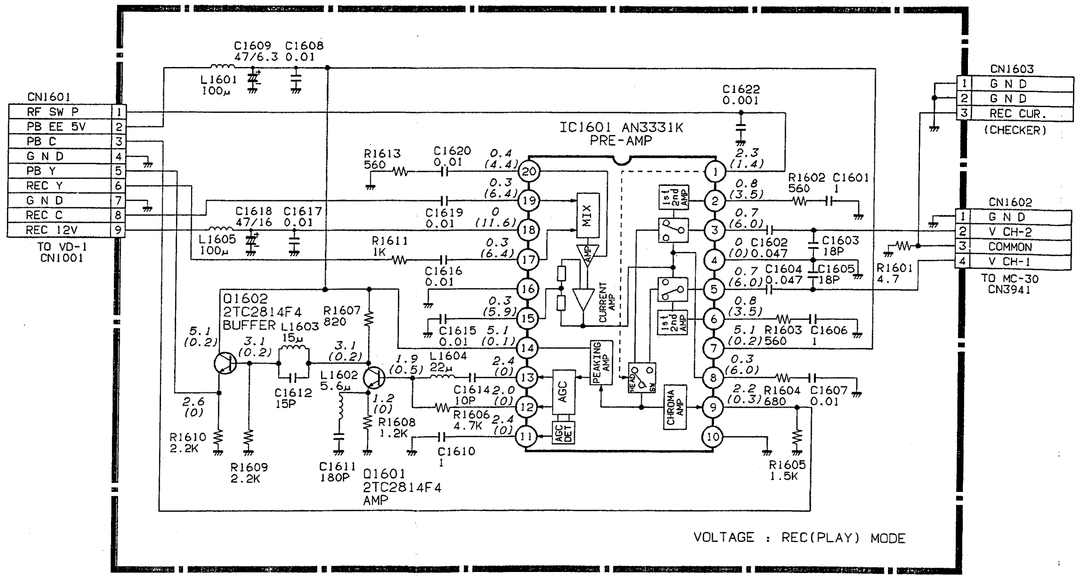

VPS CIRCUIT
IC7103 SDA5233
NC HFF HFS AS ZLS DT PHS X-TAL DCF GND DLCL
NC CV BL VCS NC DAR NC NC NC VCC DLD
C7110 47/16
C7111 0.01
C7112 15P
C7113 0.001
C7114 470P
C7115 0.022
C7116 270P
C7117 100P
X7102 10MHZ
C7118 15P
C7119 100P
L7102 10μH
C7122 0.47(TF)
C7121 0.068(TF)
C7120 0.01
IC7104 SDA5640
GND SCL SDA CSO DAVN
VCC SAND VCS DZCL X-TAL1 DZDA
C7123 0.01
C7124 47/16
CN7105
GND
ALWAYS 12V
ALWAYS 5V
SCL
SDA
GND
VIDEO IN
TO TM-4 CN7404
DIGITAL CIRCUIT
IC7105 : LC6543H-3600
R7121 33K
R7122 1K
R7123 1K
R7124 1K
R7125 1K
R7126 1K
R7127 1K
R7128 1K
R7129 1K
R7130 1K
R7131 1K
R7132 1K
R7133 1K
PE3(RESET) VDD PF0/SI(SI) PF1/SO(SO) PF2/SCK(SCLK) PF3/INT(RF-SW P.) PG0(KEY 0) PG1(KEY 1) PG2(KEY 2) PG3(KEY 3) PA0(KEY 4) PA1(LP-INH.OPT.) PA2(SP/LP) PA3(I/F BUSY) PI0/OSC2
I/F
(CH-SCAN OK)PE2 (FAW)PE1 (BGS)PE0 (MODE3)PD3 (MODE2)PD2 (MODE1)PD1 (MODE0)PD0 (RF-SW P.)PC3 (CSE)PC2 (F.ADV P.)PC1 (CH SCAN)PC0 RES VSS TEST OSC1
R7142 1K
R7141 1K
R7140 1K
R7139 1K
R7138 1K
R7137 1K
R7136 1K
R7143 1K
R7144 1K
C7130 0.01
C7125 47/16
C7126 0.01
X7103 4MHz
C7127 33P
C7128 33P
CN7102
XVS
FAW
S.OUT
S.IN
S.CLK
GND
BUSY
RESET
CH SCAN E
CH SCAN H
TO DM-1 CN8003
CN7104
DIGITAL D0
DIGITAL D1
DIGITAL D2
DIGITAL D3
DIGITAL D4
CH SCAN OK
GND
ALWAYS 5V
TO TM-4 CN7411
CN7103
MODE 0
MODE 1
MODE 2
MODE 3
F.ADV P.
SP/LP
RF SW P
RESET
XVS
TO SY-1 CN3004

P.C.B. TM-1 VPS & DIGITAL (West Germany 143-0-233V-61900) (Europe 143-0-233V-61923)


JCI-AUH
DIGITAL
VPS
REMOCON TV
LO.NO.7101- 4-233V61900A TM-1
CN1
CN2
CN3
CN4
CN5
CN6
IC1
IC2
IC3
IC4
IC5

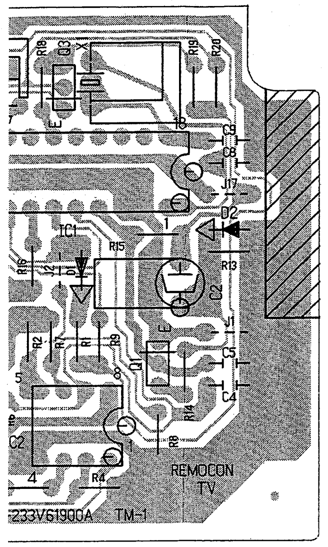
P.C.B. VP-1 VIDEO PRE-AMP & P.C.B. (143-0-233V-47524)


CN1
CN2
CN3
IC1
L5
C18
BP2 VP1
LOC.NO.1600-
4-233V47500

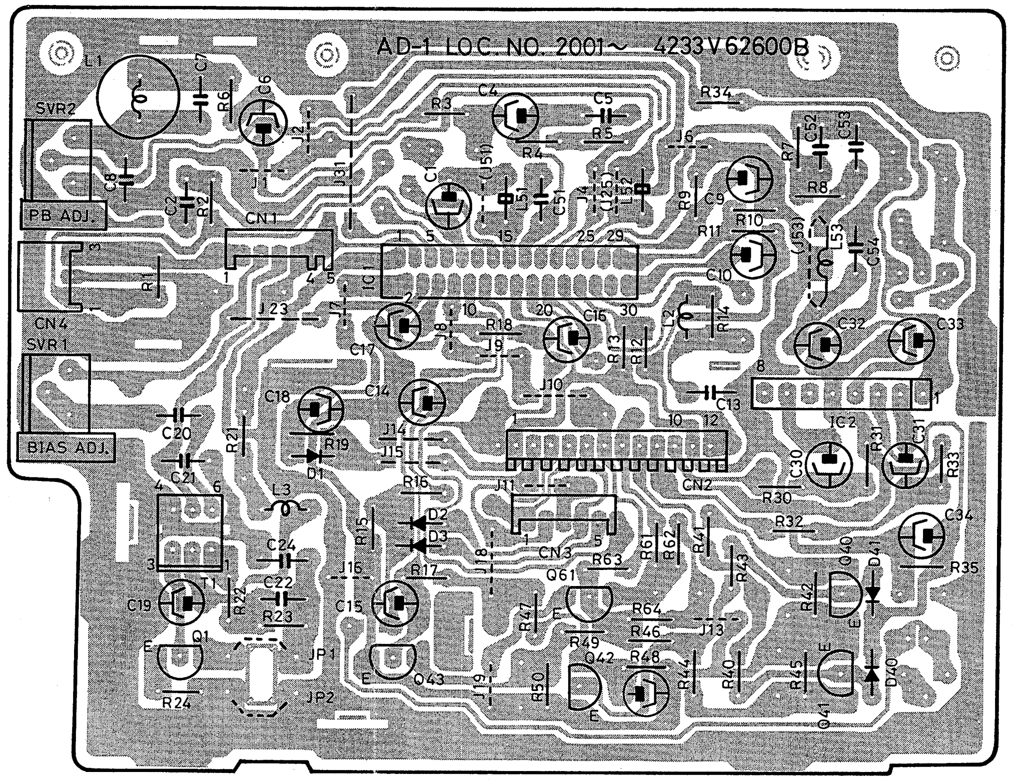

IC1601 AN3331K PRE-AMP
CN1601
RF SW P
PB EE 5V
PB C
GND
PB Y
REC Y
GND
REC C
REC 12V
TO VD-1 CN1001
CN1603
GND
GND
REC CUR.
(CHECKER)
CN1602
GND
V CH-2
COMMON
V CH-1
TO MC-30 CN3941
Q1602 2TC2814F4 BUFFER
Q1601 2TC2814F4 AMP
MIX
AGC
CURRENT AMP
CHROMA AMP
VOLTAGE : REC(PLAY) MODE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

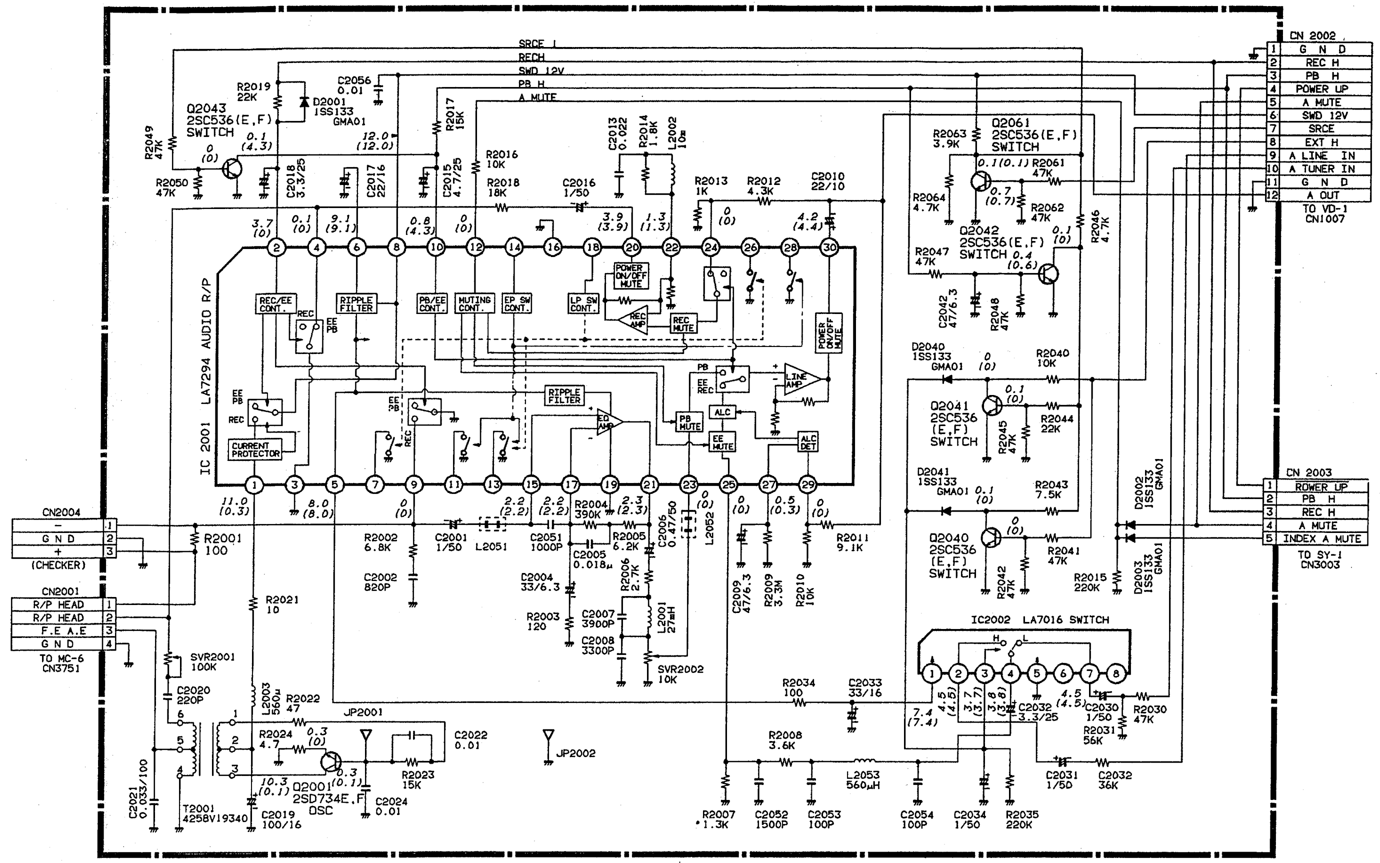
1900)


REMOCON
TV
TM-1
IC1
233V61900A

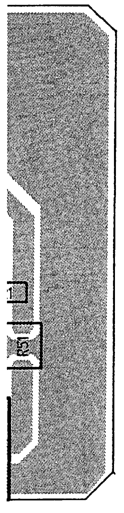
P.C.B. AD-1 AUDIO (West Germany 143-0-233V-62600) (Europe 143-0-233V-62621)


AD-1 LOC. NO. 2001~ 4233V62600B
SVR2
PB ADJ.
CN1
CN4
SVR1
BIAS ADJ.
CN2
CN3
IC1
IC2

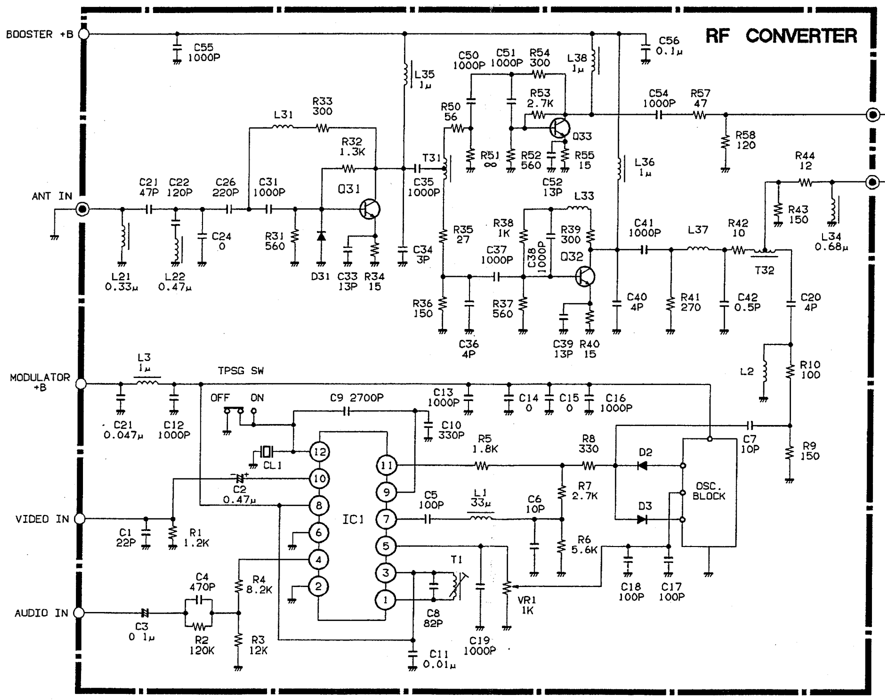
P.C.B. AD-1 AUDIO (143-0-233V-62600)


IC 2001 LA7294 AUDIO R/P
IC2002 LA7016 SWITCH
CN 2002
1 GND
2 REC H
3 PB H
4 POWER UP
5 A MUTE
6 SWD 12V
7 SRCE
8 EXT H
9 A LINE IN
10 A TUNER IN
11 GND
12 A OUT
TO VD-1 CN1007
CN 2003
1 POWER UP
2 PB H
3 REC H
4 A MUTE
5 INDEX A MUTE
TO SY-1 CN3003
CN2004
GND
+
(CHECKER)
CN2001
R/P HEAD
R/P HEAD
F.E.A.E
GND
TO MC-6 CN3751
T2001 4258V19340
Q2001 2SD734E,F OSC
JP2001
JP2002
SVR2001 100K
SVR2002 10K

4)



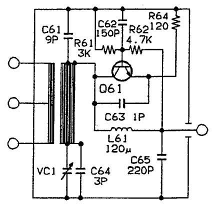
RF CONVERTER (143-9-4300-84400)


RF CONVERTER
BOOSTER +B
ANT IN
MODULATOR +B
VIDEO IN
AUDIO IN
VCR TU
ANT OUT
TPSG SW
OFF
ON
IC1
OSC. BLOCK

NOTE

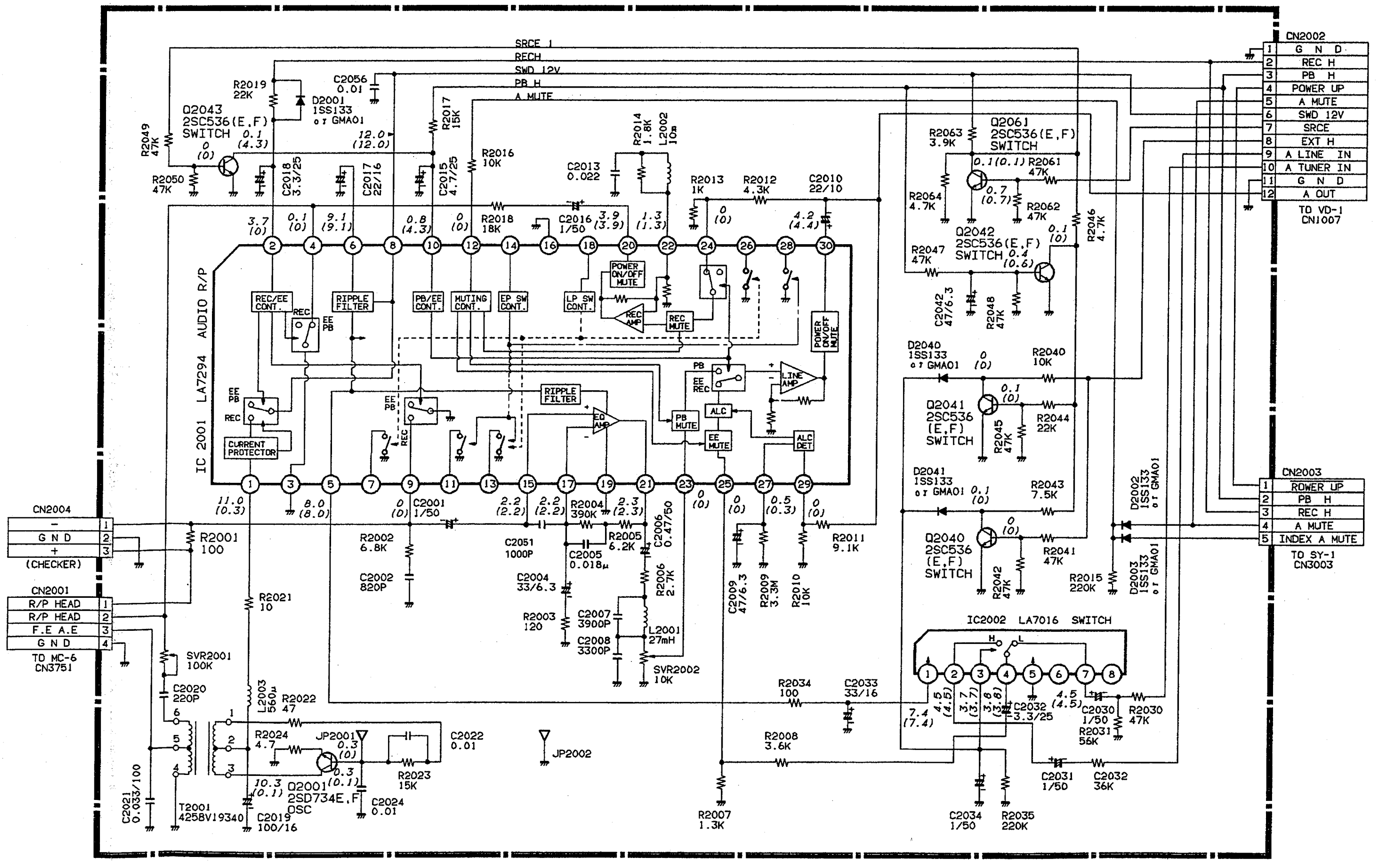
IC1 : AJ7080
Q31.Q32 : 2SC3355.2SC2570 OR EQUIVALENT
Q61 : 2SC2480 OR EQUIVALENT
D2.D3 : HSM276 OR EQUIVALENT
D31 : 1SS133.1SS83 OR EQUIVALENT
UNIT : RESISTOR : Ω
CAPACITOR : F
INDUCTOR : H

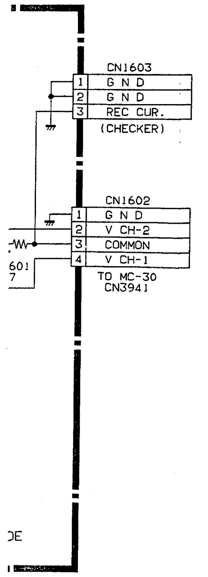
OSC BLOCK


C61 9P
R61 3K
C62 150P
R62 4.7K
R64 120
Q61
L61 120μ
C63 1P
C65 22P
VC1
C64 3P
+B

Ⓔ
FVH-D40HV
FVH-D40S

P.C.B. AD-1 AUDIO (143-0-233V-62621)

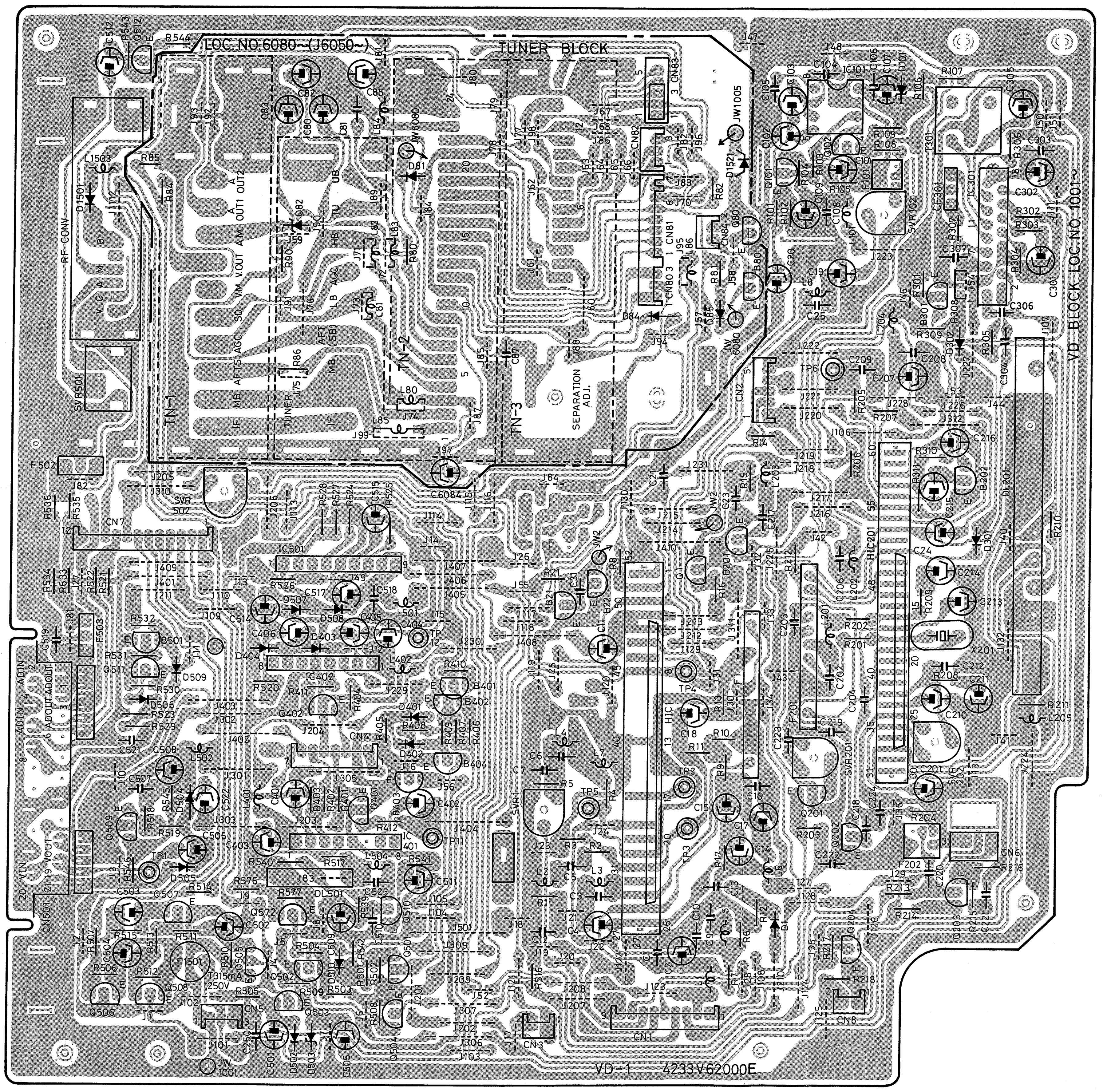

IC 2001 LA7294 AUDIO R/P
IC2002 LA7016 SWITCH
CN2002
1 GND
2 REC H
3 PB H
4 POWER UP
5 A MUTE
6 SWD 12V
7 SRCE
8 EXT H
9 A LINE IN
10 A TUNER IN
11 GND
12 A OUT
TO VD-1 CN1007
CN2003
1 POWER UP
2 PB H
3 REC H
4 A MUTE
5 INDEX A MUTE
TO SY-1 CN3003
CN2004
GND
+
(CHECKER)
CN2001
R/P HEAD
R/P HEAD
F.E.A.E
GND
TO MC-6 CN3751
T2001 4258V19340
Q2001 2SD734E,F OSC

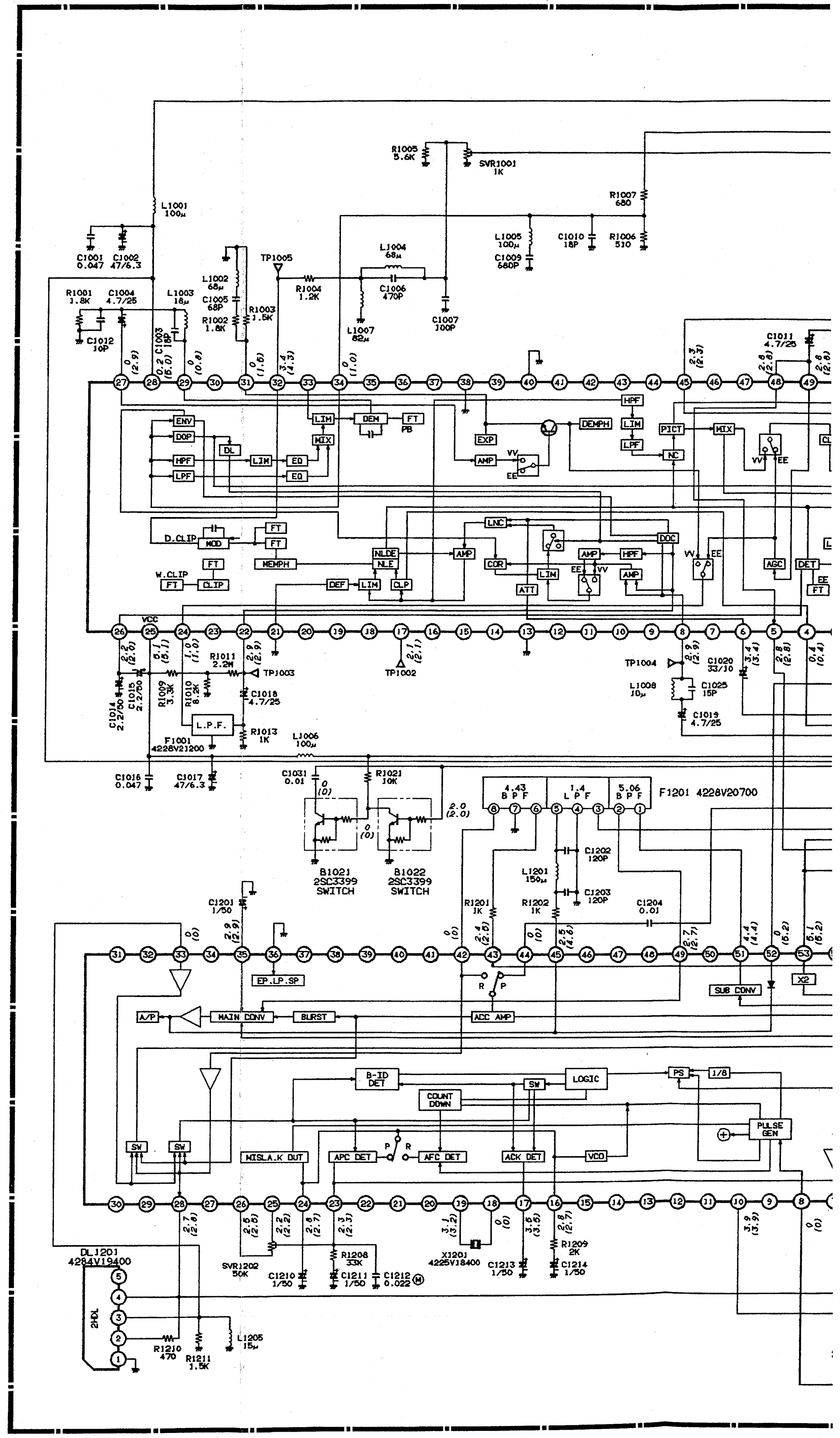

CN1603
1 GND
2 GND
3 REC CUR.
(CHECKER)
CN1602
1 GND
2 V CH-2
3 COMMON
4 V CH-1
TO MC-30 CN3941

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

P.C.B. VD-1 VIDEO (West Germany 143-0-233V-62000) (Europe 143-0-233V-62030)

F
FVH-D40HV
FVH-D40S

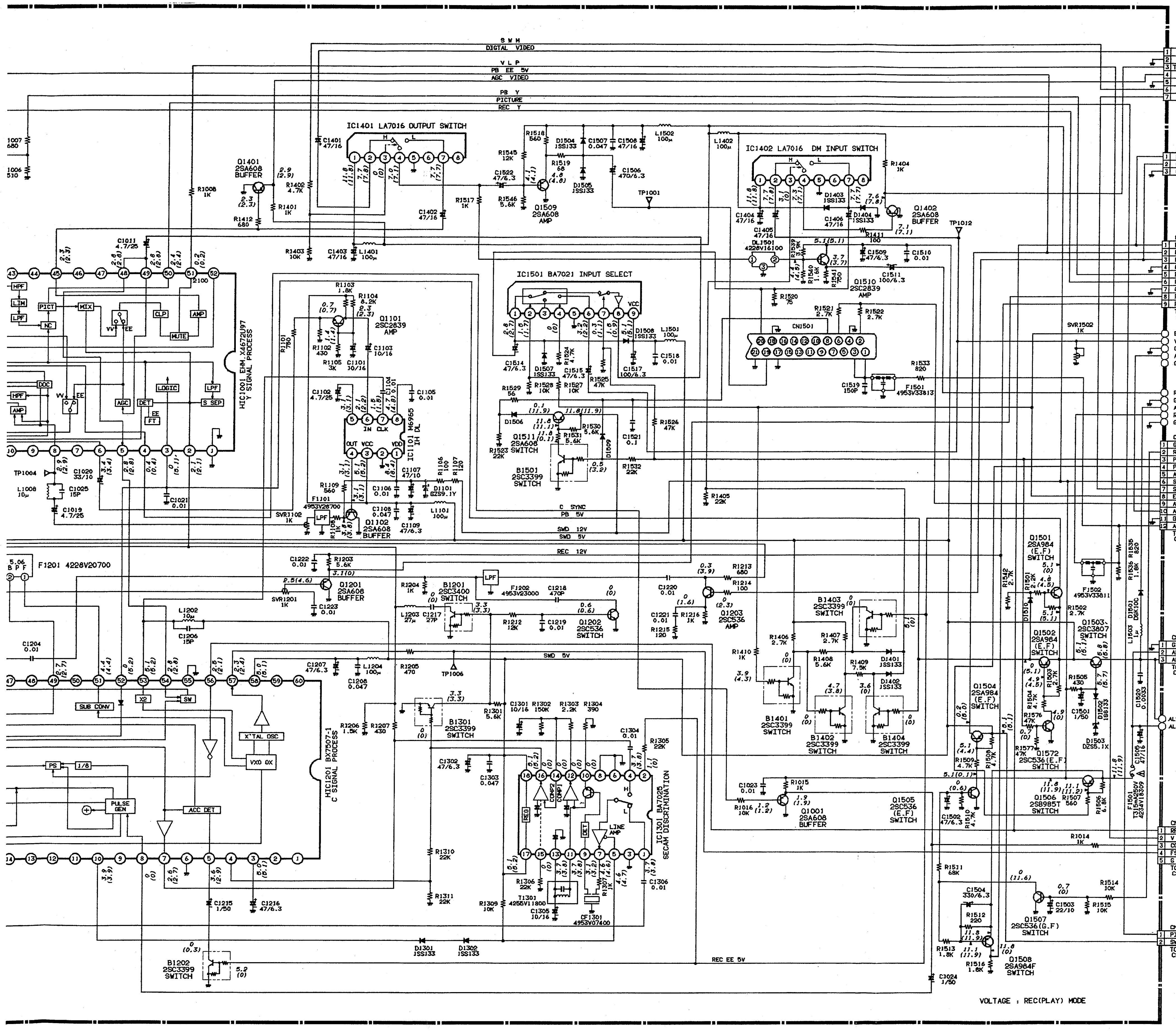

LOC. NO. 6080~(J6050~)
TUNER BLOCK
TN-1
TN-2
TN-3
SEPARATION ADJ.
RF CONV
VD BLOCK LOC. NO. 1001~
IC501
IC402
IC401
IC101
IC301
HIC1
HIC201
DL201
DL501
X201
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN501
CN81
CN82
CN83
CN84
SVR501
SVR502
SVR1
SVR102
SVR201
F1501
T315mA 250V
TP1
TP2
TP3
TP4
TP5
TP6
TP11
TP12
JW1001
JW1005
VD-1 4233V62000E


R1005 5.6K
SVR1001 1K
L1001 100μ
R1007 680
R1006 510
C1010 18P
L1005 100μ
C1009 680P
C1001 0.047
C1002 47/6.3
L1004 68μ
C1006 470P
C1007 100P
L1007 82μ
TP1005
R1004 1.2K
R1001 1.8K
C1004 4.7/25
L1003 18μ
L1002 68μ
C1005 68P
R1003 1.5K
R1002 1.8K
C1012 10P
C1011 4.7/25
ENV
DOP
HPF
LPF
DL
LIM
EQ
MIX
DEM
FT
PB
EXP
AMP
DEMPH
PICT
NC
D.CLIP
MOD
W.CLIP
CLIP
MEMPH
DEF
NLDE
NLE
CLP
LNC
COR
ATT
DOC
AGC
DET
VV
EE
TP1003
TP1002
TP1004
R1011 2.2M
R1009 3.3K
R1010 6.8K
C1018 4.7/25
C1014 2.2/50
C1015 2.2/50
L.P.F.
F1001 4228V21200
R1013 1K
L1006 100μ
C1016 0.047
C1017 47/6.3
L1008 10μ
C1025 15P
C1019 4.7/25
C1020 33/10
C1031 0.01
R1021 10K
B1021 2SC3399 SWITCH
B1022 2SC3399 SWITCH
4.43 BPF
1.4 LPF
5.06 BPF
F1201 4228V20700
C1201 1/50
R1201 1K
L1201 150μ
R1202 1K
C1202 120P
C1203 120P
C1204 0.01
EP.LP.SP
A/P
MAIN CONV
BURST
ACC AMP
SUB CONV
X2
B-ID DET
COUNT DOWN
SW
LOGIC
PS
1/8
PULSE GEN
MISLA.K OUT
APC DET
AFC DET
ACK DET
VCO
DL1201 4284V19400
2HDL
R1210 470
R1211 1.5K
L1205 15μ
SVR1202 50K
C1210 1/50
R1208 33K
C1211 1/50
C1212 0.022
X1201 4225V18400
C1213 1/50
R1209 2K
C1214 1/50

K
J
I
H
G
F
E
D
C
B
A

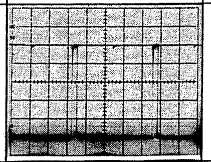
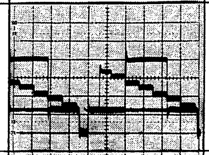
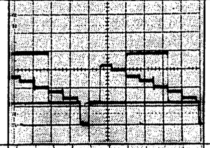
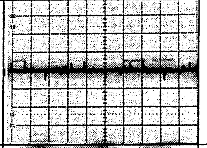
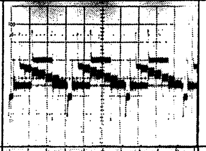
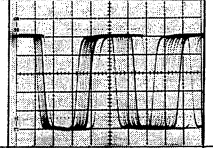
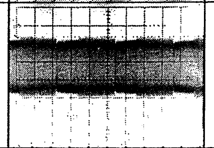
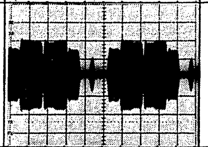
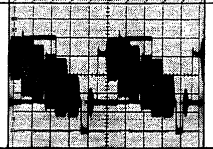
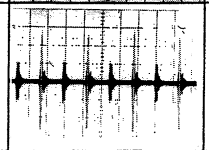
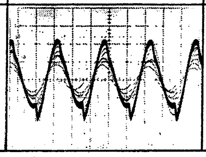
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

P.C.B. VD-1 VIDEO CIRCUIT (143-0-233V-62600)

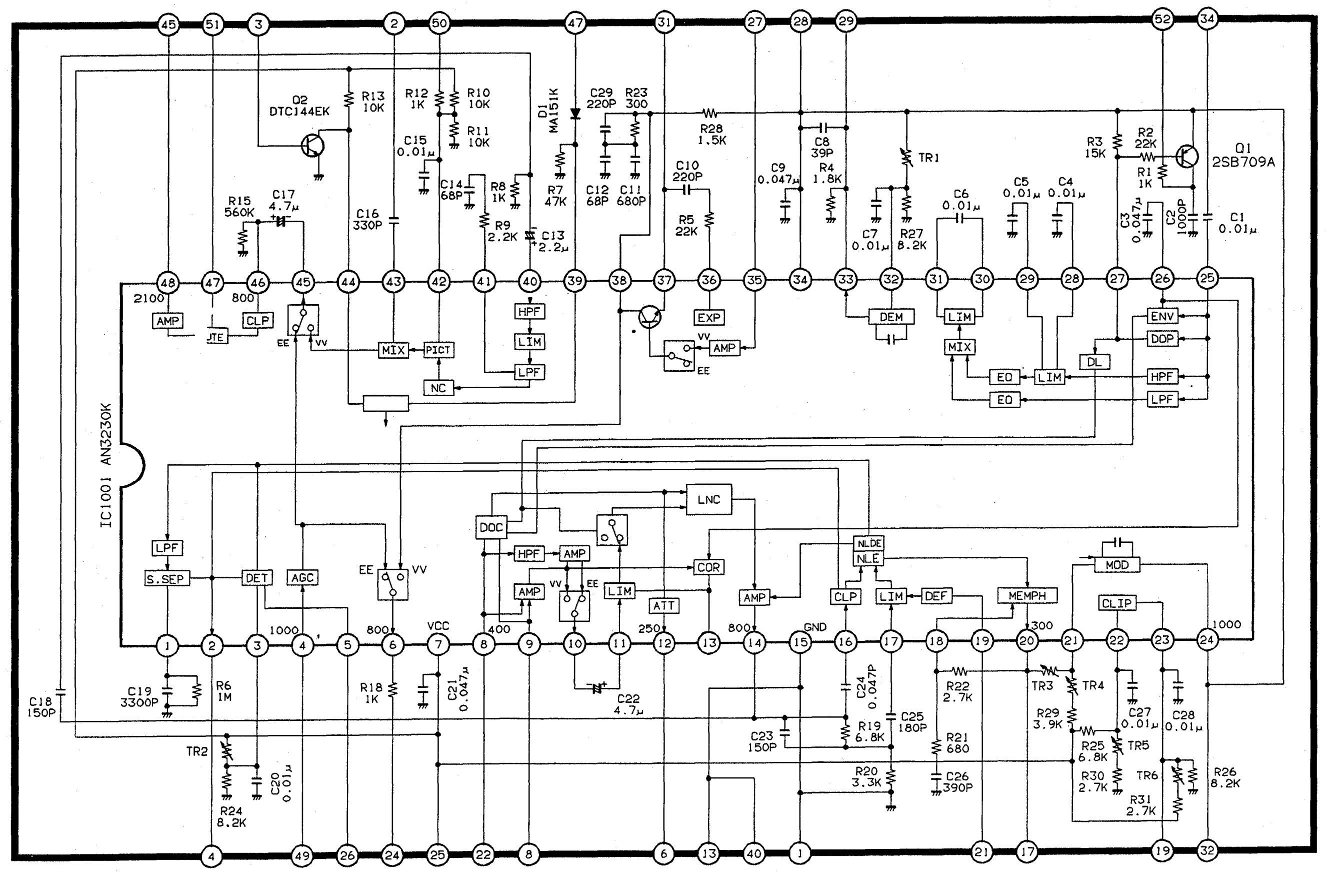

IC1401 LA7016 OUTPUT SWITCH
IC1402 LA7016 DM INPUT SWITCH
IC1501 BA7021 INPUT SELECT
IC1101 M6965 1H DL
HIC1001 EMX-X4672U97 Y SIGNAL PROCESS
HIC1201 BX7507-1 C SIGNAL PROCESS
IC1301 BA7025 SECAM DISCRIMINATION
Q1401 2SA608 BUFFER
Q1402 2SA608 BUFFER
Q1509 2SA608 AMP
Q1510 2SC2839 AMP
Q1101 2SC2839 AMP
Q1102 2SA608 BUFFER
Q1511 2SA608 SWITCH
B1501 2SC3399 SWITCH
Q1201 2SA608 BUFFER
B1201 2SC3400 SWITCH
Q1202 2SC536 SWITCH
Q1203 2SC536 AMP
B1301 2SC3399 SWITCH
B1202 2SC3399 SWITCH
B1401 2SC3399 SWITCH
B1402 2SC3399 SWITCH
B1403 2SC3399 SWITCH
B1404 2SC3399 SWITCH
Q1001 2SA608 BUFFER
Q1501 2SA984 (E.F) SWITCH
Q1502 2SA984 (E.F) SWITCH
Q1503 2SC3807 SWITCH
Q1504 2SA984 (E.F) SWITCH
Q1505 2SC536 (E.F) SWITCH
Q1506 2SB985T SWITCH
Q1507 2SC536(G.F) SWITCH
Q1508 2SA984F SWITCH
Q1572 2SC536(E.F) SWITCH
CN1501
F1201 4226V20700
F1101 4953V26700
F1202 4953V23000
F1501 4953V33813
F1502 4953V33811
DL1501 4226V16100
CF1301 4953V07400
T1301 4255V11800
5.06 B P F
HPF
LIM
LPF
PICT
MIX
VV
EE
CLP
AMP
MUTE
NC
DOC
LOGIC
AGC
DET
FT
S SEP
SUB CONV
X2
SW
X'TAL OSC
VXO OX
PS
1/8
PULSE GEN
ACC DET
COMP1
COMP2
DET
LINE AMP
TP1001
TP1002
TP1003
TP1004
TP1005
TP1006
TP1012
S W H
DIGITAL VIDEO
V L P
PB EE 5V
AGC VIDEO
PB Y
PICTURE
REC Y
C SYNC
PB 5V
SWD 12V
SWD 5V
REC 12V
REC EE 5V
CN1004
DIGITAL VIDEO
G N D
THROUGH VIDEO
AGC VIDEO
G N D
SWH
SRCE 1
TO DN-1 CN8001
CN1006
RF SWP
ENV
G N D
(CHECKER)
CN1001
RF SWP
PB EE 5V
PB C
G N D
PB Y
REC Y
G N D
REC C
REC 12V
TO VP-1 CN1601
EXT/TU
VIDEO IN(TUNER)
G N D
AUDIO IN(TUNER)
G N D
TU
RF VIDEO OUT
G N D
ALWAYS 5V
RF AUDIO OUT
G N D
RF CONV
CN1007
G N D
REC H
PB H
POWER UP
A MUTE
SWD 12V
SRCE
EXT H
A LINE IN
A TUNER IN
G N D
A OUT
TO AD-1 CN2002
CN1005
G N D
ALWAYS 12V
ALWAYS 5.8V
TO PW-1 CN5102
ALWAYS 5.8V
ALWAYS 12V
TU
CN1002
RF SW P
V L P
COMP SYNC
FSC
G N D
TO SY-1 CN4006
CN1003
PIC CONTROL
SWD 5V
TO TN-5 CN7503
VOLTAGE : REC(PLAY) MODE

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

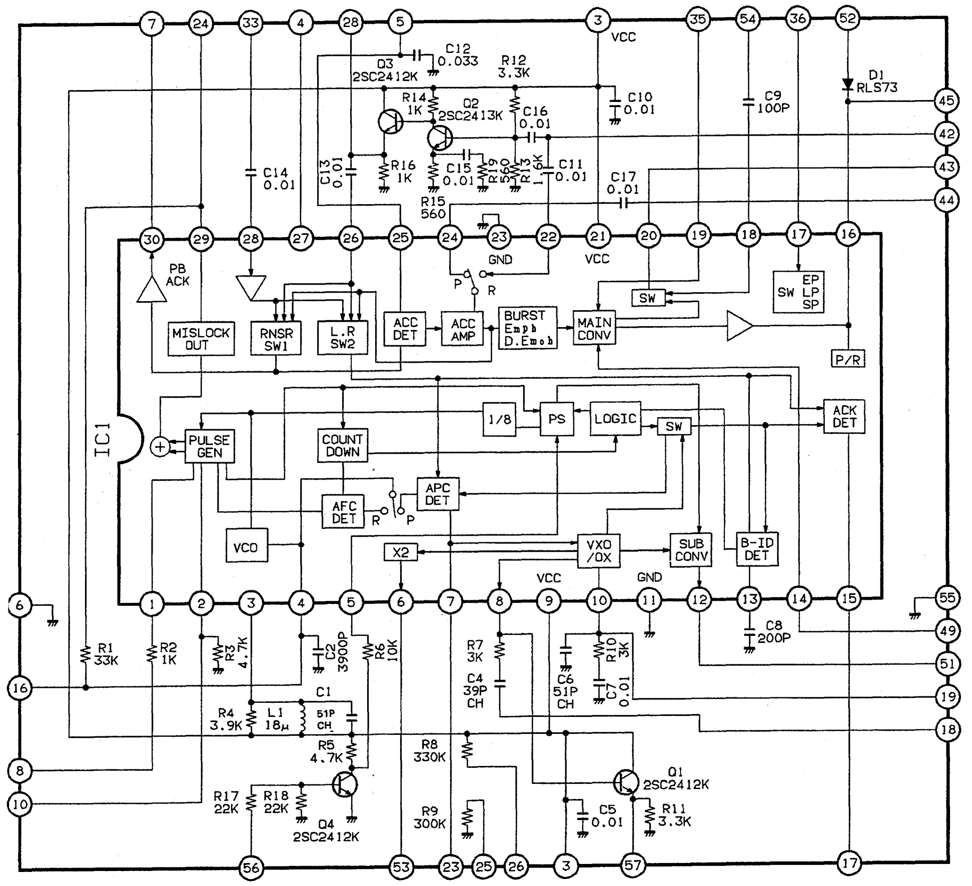
WAVEFORM OF VIDEO

Pin No.		
HIC 1001 (4)		1V/div 5 Vp-p
TP 1003		100 mV/div 400 m Vp-p
TP 1003		100 mV/div 400 m Vp-p
TP 1003 TP 1004		50 mV/div
TP 1002		REC 2 div=100%
TP 1005		200 mV/div 1 Vp-p
HIC 1001 (34)		PLAY 100 m V/div 350 m Vp-p
HIC 1001 (2)		100 mV/div 400 m Vp-p
TP 1001		200 mV/div 1 Vp-p
IC 1301 (9)		REC SECAM 100 mV/div
IC 1301 (11)		REC SECAM 1 V/div

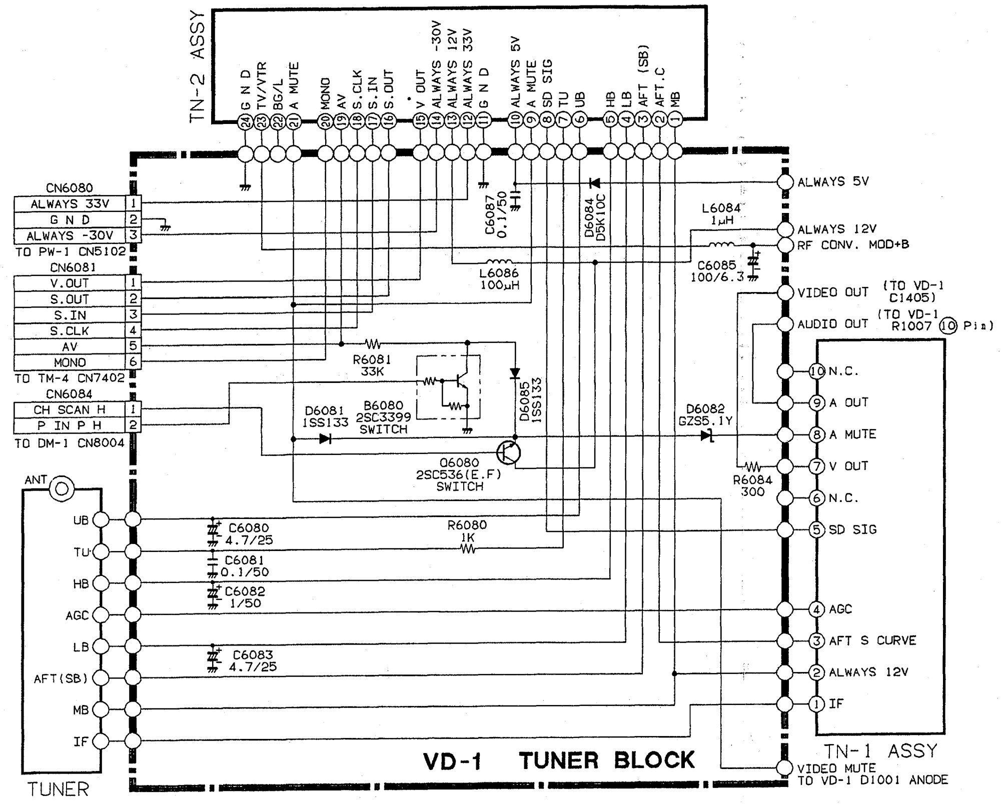
HIC 1001


IC1001 AN3230K
Q1 2SB709A
Q2 DTC144EK
D1 MA151K
TR1
TR2
TR3
TR4
TR5
TR6
AMP
CLP
MIX
PICT
NC
HPF
LIM
LPF
EXP
DEM
EQ
DL
ENV
DOP
LPF
S.SEP
DET
AGC
DOC
LNC
COR
ATT
NLDE
NLE
DEF
MEMPH
MOD
CLIP
EE
VV
VCC
GND

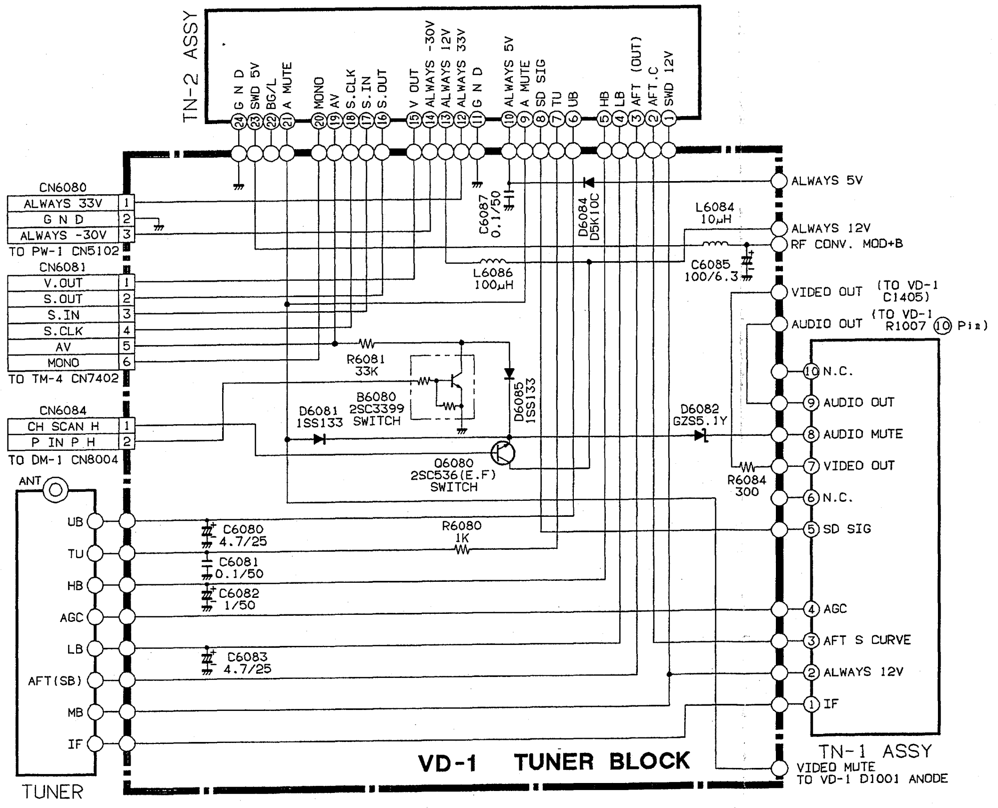
HIC 1201

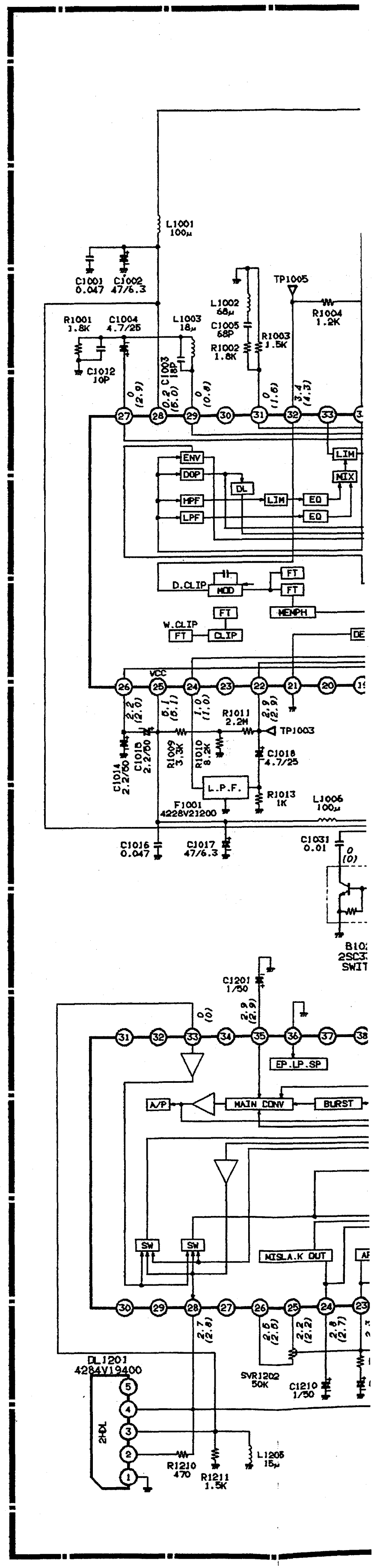

IC1
Q1 2SC2412K
Q2 2SC2413K
Q3 2SC2412K
D1 RLS73
D4 2SC2412K
PB ACK
MISLOCK OUT
RNSR SW1
L.R SW2
ACC DET
ACC AMP
BURST Emph D.Emph
MAIN CONV
SW
EP LP SP
P/R
PULSE GEN
COUNT DOWN
1/8
PS
LOGIC
ACK DET
AFC DET
APC DET
VCO
X2
VXO /OX
SUB CONV
B-ID DET
VCC
GND

P.C.B. VD-1 TUNER CIRCUIT (143-0-233V-62000)


TN-2 ASSY
G N D
TV/VTR
BG/L
A MUTE
MONO
AV
S.CLK
S.IN
S.OUT
V OUT
ALWAYS -30V
ALWAYS 12V
ALWAYS 33V
G N D
ALWAYS 5V
A MUTE
SD SIG
TU
UB
HB
LB
AFT (SB)
AFT.C
MB
CN6080
ALWAYS 33V
G N D
ALWAYS -30V
TO PW-1 CN5102
CN6081
V.OUT
S.OUT
S.IN
S.CLK
AV
MONO
TO TM-4 CN7402
CN6084
CH SCAN H
P IN P H
TO DM-1 CN8004
ANT
UB
TU
HB
AGC
LB
AFT(SB)
MB
IF
TUNER
ALWAYS 5V
ALWAYS 12V
RF CONV. MOD+B
VIDEO OUT (TO VD-1 C1405)
AUDIO OUT (TO VD-1 R1007 (10) Pin)
N.C.
A OUT
A MUTE
V OUT
N.C.
SD SIG
AGC
AFT S CURVE
ALWAYS 12V
IF
TN-1 ASSY
VIDEO MUTE TO VD-1 D1001 ANODE
VD-1 TUNER BLOCK
L6084 1μH
C6085 100/6.3
L6086 100μH
R6081 33K
D6081 1SS133
B6080 2SC3399 SWITCH
D6085 1SS133
Q6080 2SC536(E.F) SWITCH
D6082 GZS5.1Y
R6084 300
C6080 4.7/25
C6081 0.1/50
C6082 1/50
C6083 4.7/25
R6080 1K
C6087 0.1/50
D6084 DSK10C

P.C.B. VD-1 TUNER CIRCUIT (143-0-233V-62030)

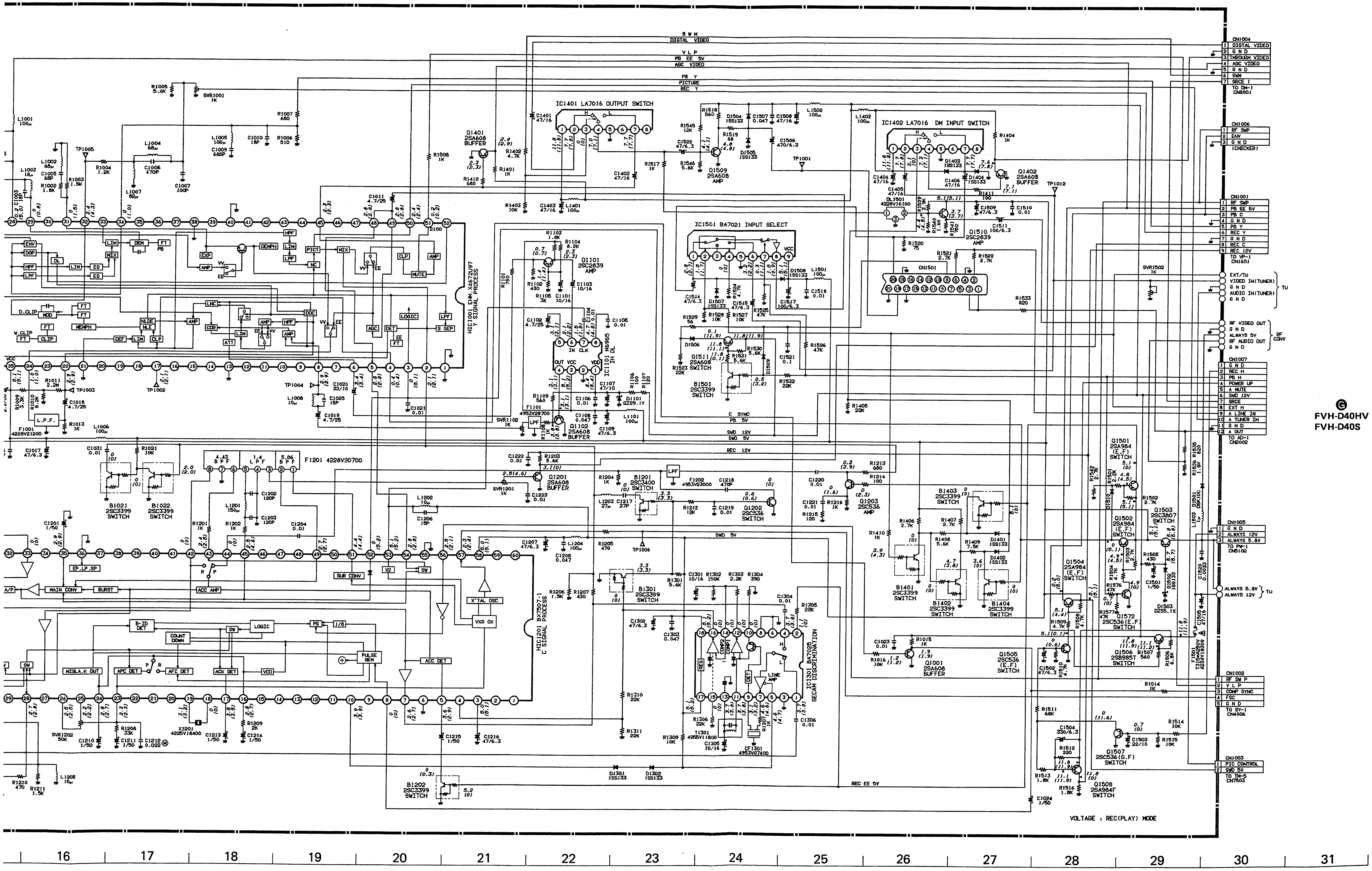

TN-2 ASSY
G N D
SND 5V
BG/L
A MUTE
MONO
AV
S.CLK
S.IN
S.OUT
V OUT
ALWAYS -30V
ALWAYS 12V
ALWAYS 33V
G N D
ALWAYS 5V
A MUTE
SD SIG
TU
UB
HB
LB
AFT (OUT)
AFT.C
SND 12V
CN6080
ALWAYS 33V
G N D
ALWAYS -30V
TO PW-1 CN5102
CN6081
V.OUT
S.OUT
S.IN
S.CLK
AV
MONO
TO TM-4 CN7402
CN6084
CH SCAN H
P IN P H
TO DM-1 CN8004
ANT
TUNER
ALWAYS 5V
ALWAYS 12V
RF CONV. MOD+B
VIDEO OUT (TO VD-1 C1405)
AUDIO OUT (TO VD-1 R1007 (10) Pin)
N.C.
AUDIO OUT
AUDIO MUTE
VIDEO OUT
N.C.
SD SIG
AGC
AFT S CURVE
ALWAYS 12V
IF
TN-1 ASSY
VIDEO MUTE TO VD-1 D1001 ANODE
VD-1 TUNER BLOCK
L6084 10μH
C6085 100/6.3
L6086 100μH
R6081 33K
D6081 1SS133
B6080 2SC3399 SWITCH
D6085 1SS133
Q6080 2SC536(E.F) SWITCH
D6082 GZS5.1Y
R6084 300
R6080 1K


L1001 100μ
TP1005
R1004 1.2K
L1003 18μ
R1003 1.5K
R1002 1.8K
ENV
DOP
HPF
LPF
DL
LIM
EQ
MIX
D.CLIP
MOD
FT
W.CLIP
CLIP
MEMPH
TP1003
L.P.F.
F1001 4226V21200
R1013 1K
L1006 100μ
EP.LP.SP
A/P
MAIN CONV
BURST
SW
MISLA.K OUT
DL1201 4284V19400
R1210 470
R1211 1.5K
L1205 18μ
SVR1202 50K
C1210 1/50

K
J
I
H
G
F
E
D
C
B
A

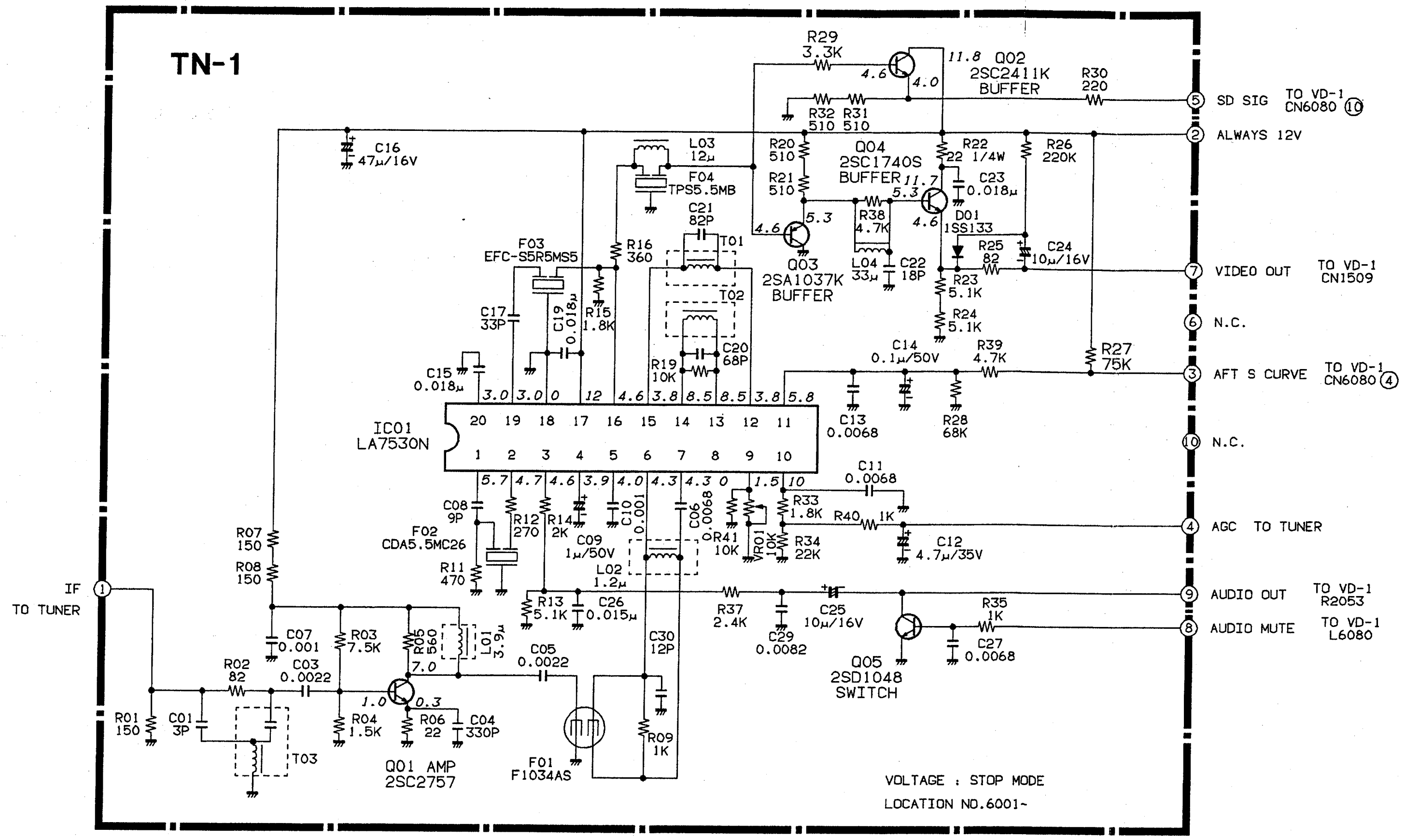
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

P.C.B. VD-1 VIDEO CIRCUIT (143-0-233V-62030)

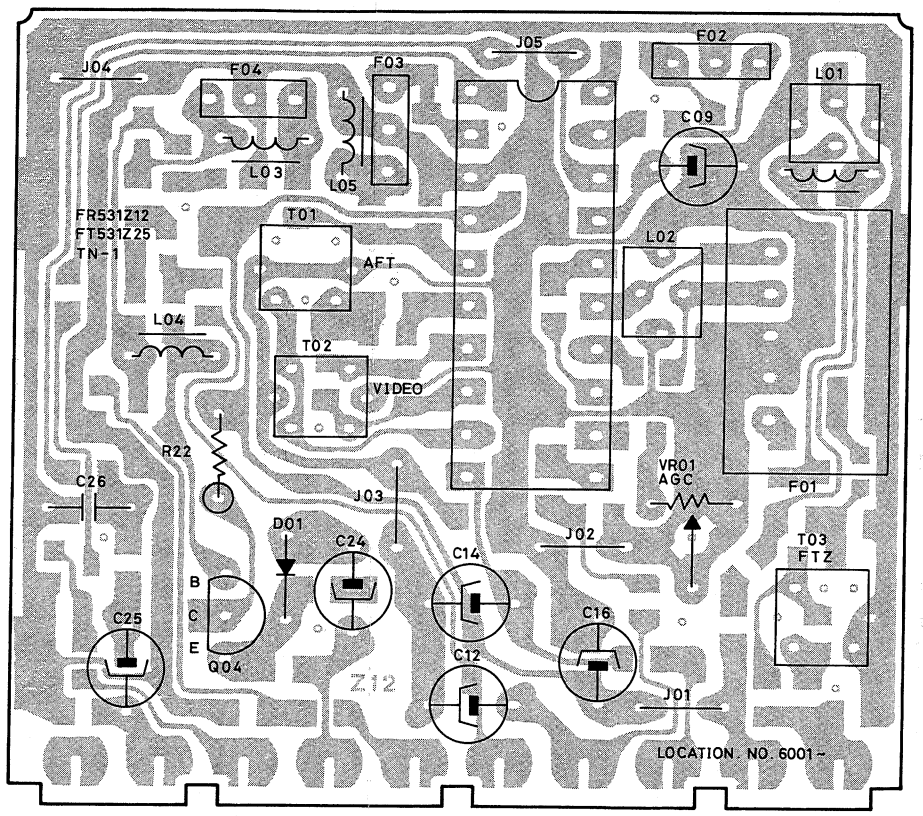

IC1401 LA7016 OUTPUT SWITCH
IC1402 LA7016 DM INPUT SWITCH
IC1501 BA7021 INPUT SELECT
HIC1001 EWA-X4672H97 Y SIGNAL PROCESS
HIC1201 BX7507-1 C SIGNAL PROCESS
IC1301 BA7026 SECAM DISCRIMINATION
IC1101 M6965 1H DL
F1201 4228V20700
F1001 4228V21200
CN1004
DIGITAL VIDEO
GND
THROUGH VIDEO
AGC VIDEO
GND
SWH
SRCE I
TO DN-1 CN8001
CN1006
RF SWP
ENV
GND
(CHECKER)
CN1001
RF SWP
PB EE 5V
PB C
GND
PB Y
REC Y
GND
REC C
REC 12V
TO VP-1 CN1601
EXT/TU
VIDEO IN(TUNER)
GND
AUDIO IN(TUNER)
GND
TU
RF VIDEO OUT
GND
ALWAYS 5V
RF AUDIO OUT
GND
RF CONV
CN1007
GND
REC H
PB H
POWER UP
A MUTE
SWD 12V
SRCE
EXT H
A LINE IN
A TUNER IN
GND
A OUT
TO AD-1 CN2002
CN1005
GND
ALWAYS 12V
ALWAYS 5.8V
TO PW-1 CN5102
ALWAYS 5.8V
ALWAYS 12V
TU
CN1002
RF SW P
VLP
COMP SYNC
FSC
GND
TO SY-1 CN4006
CN1003
PIC CONTROL
SWD 5V
TO TM-5 CN7503
SWH
DIGITAL VIDEO
VLP
PB EE 5V
AGC VIDEO
PB Y
PICTURE
REC Y
C SYNC
PB 5V
SWD 12V
SWD 5V
REC 12V
REC EE 5V
Q1101 2SC2839 AMP
Q1102 2SA608 BUFFER
Q1201 2SA608 BUFFER
Q1202 2SC536 SWITCH
Q1203 2SC536 AMP
Q1001 2SA608 BUFFER
Q1401 2SA608 BUFFER
Q1402 2SA608 BUFFER
Q1509 2SA608 AMP
Q1510 2SC2839 AMP
Q1511 2SA608 SWITCH
Q1501 2SA984 (E.F) SWITCH
Q1502 2SA984 (E.F) SWITCH
Q1503 2SC3807 SWITCH
Q1504 2SA984 (E.F) SWITCH
Q1505 2SC536 (E.F) SWITCH
Q1506 2SB985T SWITCH
Q1507 2SC536(E.F) SWITCH
Q1508 2SA984F SWITCH
Q1572 2SC536(E.F) SWITCH
B1021 2SC3399 SWITCH
B1022 2SC3399 SWITCH
B1201 2SC3400 SWITCH
B1202 2SC3399 SWITCH
B1301 2SC3399 SWITCH
B1401 2SC3399 SWITCH
B1402 2SC3399 SWITCH
B1403 2SC3399 SWITCH
B1404 2SC3399 SWITCH
B1501 2SC3399 SWITCH
X1201 4225V18400
T1301 4955V11800
CF1301 4953V07400
F1101 4953V26700
F1202 4953V23000
VOLTAGE : REC(PLAY) MODE
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31

Ⓖ FVH-D40HV
FVH-D40S

P.C.B. TN-1 TUNER IF CIRCUIT (143-9-4300-83300)

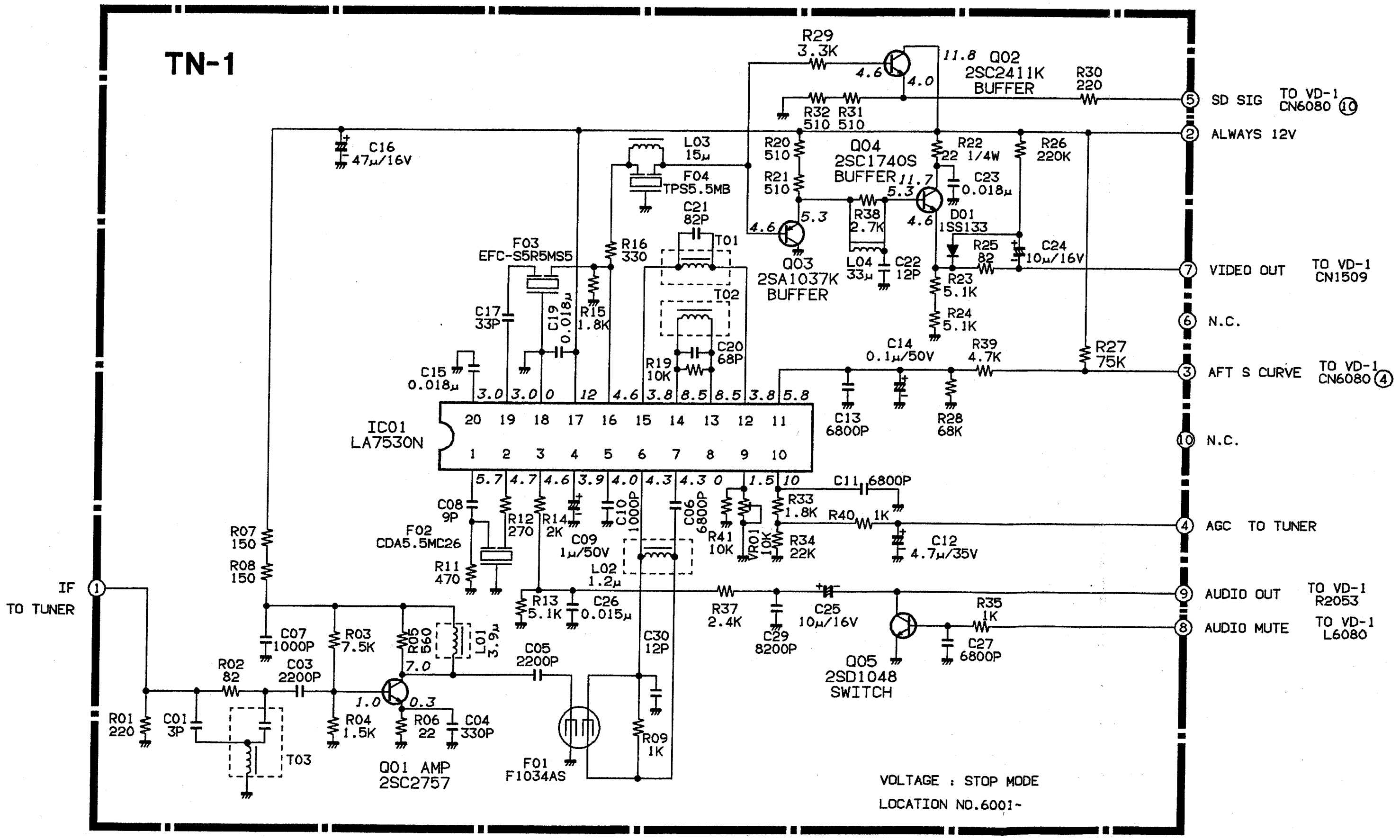

TN-1
R29 3.3K
Q02 2SC2411K BUFFER
R30 220
R32 510
R31 510
SD SIG
TO VD-1 CN6080 ⑩
ALWAYS 12V
C16 47µ/16V
L03 12µ
F04 TPS5.5MB
R20 510
R21 510
Q04 2SC1740S BUFFER
R22 22 1/4W
R26 220K
C23 0.018µ
C21 82P
T01
R38 4.7K
D01 1SS133
F03 EFC-S5R5MS5
R16 360
Q03 2SA1037K BUFFER
L04 33µ
C22 18P
R25 82
C24 10µ/16V
VIDEO OUT
TO VD-1 CN1509
T02
R23 5.1K
R24 5.1K
N.C.
C17 33P
C19 0.018µ
R15 1.8K
C20 68P
R19 10K
C14 0.1µ/50V
R39 4.7K
R27 75K
AFT S CURVE
TO VD-1 CN6080 ④
C15 0.018µ
C13 0.0068
R28 68K
IC01 LA7530N
N.C.
C11 0.0068
C08 9P
R12 270
R14 2K
C10 0.001
C06 0.0068
R33 1.8K
R40 1K
AGC TO TUNER
F02 CDA5.5MC26
C09 1µ/50V
R41 10K
VR01 10K
R34 22K
C12 4.7µ/35V
R07 150
R08 150
R11 470
L02 1.2µ
IF
TO TUNER
R13 5.1K
C26 0.015µ
R37 2.4K
C25 10µ/16V
AUDIO OUT
TO VD-1 R2053
R35 1K
AUDIO MUTE
TO VD-1 L6080
C07 0.001
R03 7.5K
R05 560
L01 3.9µ
C29 0.0082
C27 0.0068
Q05 2SD1048 SWITCH
R02 82
C03 0.0022
C05 0.0022
C30 12P
R01 150
C01 3P
R04 1.5K
R06 22
C04 330P
R09 1K
T03
Q01 AMP 2SC2757
F01 F1034AS
VOLTAGE : STOP MODE
LOCATION NO.6001~

P.C.B. TN-1 TUNER IF (West Germany 143-9-4300-83300)
(Europe 143-9-4300-81800)


J04
F04
F03
J05
F02
L01
L03
L05
C09
FR531Z12
FT531Z25
TN-1
T01
AFT
L02
L04
T02
VIDEO
R22
C26
D01
J03
VR01 AGC
F01
B
C
E
Q04
C24
C14
J02
T03 FTZ
C25
C12
C16
Z12
J01
LOCATION. NO. 6001~

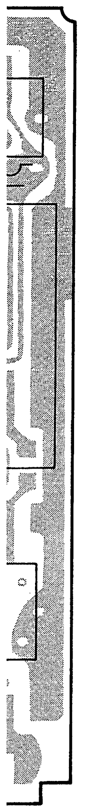
H
FVH-D40HV
FVH-D40S

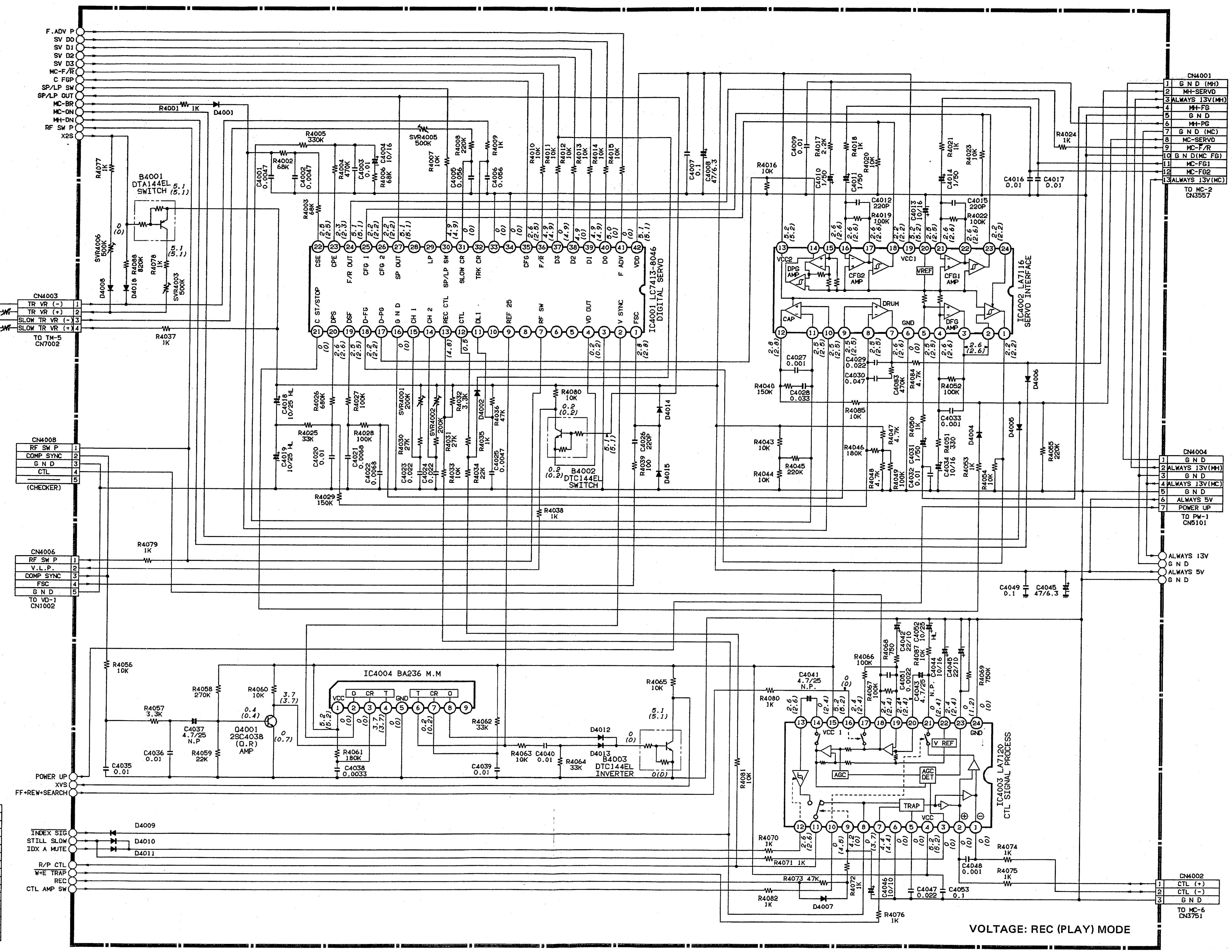
P.C.B. TN-1 TUNER IF CIRCUIT (143-9-4300-81800)


TN-1
R29 3.3K
Q02 2SC2411K BUFFER
R30 220
R32 510
R31 510
SD SIG
TO VD-1 CN6080 ⑩
ALWAYS 12V
C16 47µ/16V
L03 15µ
F04 TPS5.5MB
R20 510
R21 510
Q04 2SC1740S BUFFER
R22 22 1/4W
R26 220K
C23 0.018µ
C21 82P
T01
R38 2.7K
D01 1SS133
F03 EFC-S5R5MS5
R16 330
Q03 2SA1037K BUFFER
L04 33µ
C22 12P
R25 82
C24 10µ/16V
VIDEO OUT
TO VD-1 CN1509
T02
R23 5.1K
R24 5.1K
N.C.
C17 33P
C19 0.018µ
R15 1.8K
C20 68P
R19 10K
C14 0.1µ/50V
R39 4.7K
R27 75K
AFT S CURVE
TO VD-1 CN6080 ④
C15 0.018µ
C13 6800P
R28 68K
IC01 LA7530N
N.C.
C11 6800P
C08 9P
R12 270
R14 2K
C10 1000P
C06 6800P
R33 1.8K
R40 1K
AGC TO TUNER
F02 CDA5.5MC26
C09 1µ/50V
R41 10K
VR01 10K
R34 22K
C12 4.7µ/35V
R07 150
R08 150
R11 470
L02 1.2µ
IF
TO TUNER
R13 5.1K
C26 0.015µ
R37 2.4K
C25 10µ/16V
AUDIO OUT
TO VD-1 R2053
R35 1K
AUDIO MUTE
TO VD-1 L6080
C07 1000P
R03 7.5K
R05 560
L01 3.9µ
C29 8200P
C27 6800P
Q05 2SD1048 SWITCH
R02 82
C03 2200P
C05 2200P
C30 12P
R01 220
C01 3P
R04 1.5K
R06 22
C04 330P
R09 1K
T03
Q01 AMP 2SC2757
F01 F1034AS
VOLTAGE : STOP MODE
LOCATION NO.6001~

	D3	D2
0	0	0
1	0	0
2	0	0
3	0	0
4	0	1
5	0	1
6	0	1
7	0	1
8	1	0
9	1	0
A	1	0
B	1	0
C	1	1
D	1	1
E	1	1
F	1	1

P.C.B. SY-1 SERVO CIRCUIT (143-0-233V-64423)



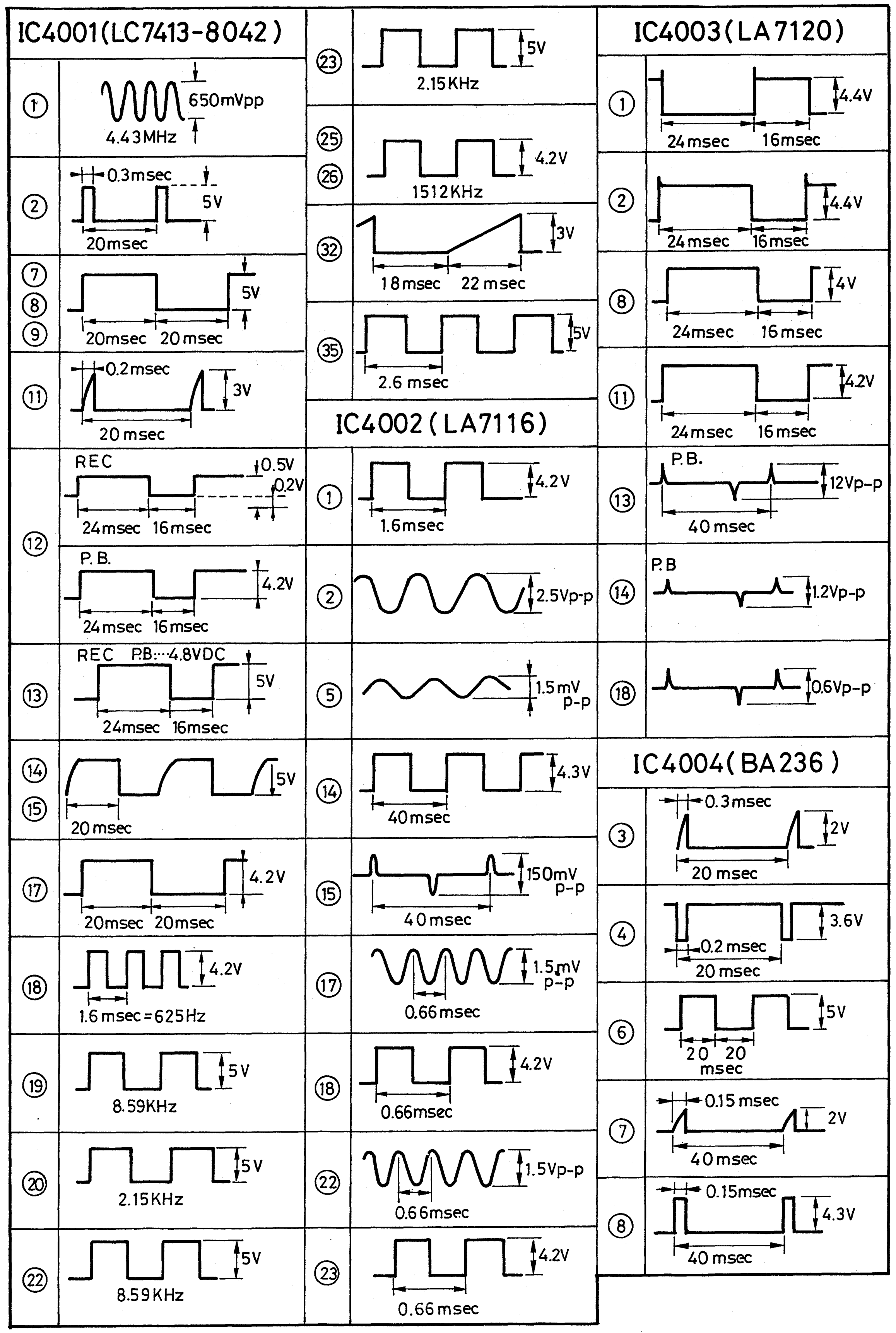

F.ADV P
SV D0
SV D1
SV D2
SV D3
MC-F/R
C FGP
SP/LP SW
SP/LP OUT
MC-BR
MC-ON
MH-ON
RF SW P
X2S
CN4003
TR VR (-)
TR VR (+)
SLOW TR VR (-)
SLOW TR VR (+)
TO TM-5
CN7002
CN4008
RF SW P
COMP SYNC
G N D
CTL
(CHECKER)
CN4006
RF SW P
V.L.P.
COMP SYNC
FSC
G N D
TO VD-1
CN1002
B4001
DTA144EL
SWITCH
IC4001 LC7413-8046
DIGITAL SERVO
IC4002 LA7116
SERVO INTERFACE
B4002
DTC144EL
SWITCH
CN4001
G N D (MH)
MH-SERVO
ALWAYS 13V(MH)
MH-FG
G N D
MH-PG
G N D (MC)
MC-SERVO
MC-F/R
G N D(MC FG)
MC-FG1
MC-FG2
ALWAYS 13V(MC)
TO MC-2
CN3557
CN4004
G N D
ALWAYS 13V(MH)
G N D
ALWAYS 13V(MC)
G N D
ALWAYS 5V
POWER UP
TO PW-1
CN5101
ALWAYS 13V
G N D
ALWAYS 5V
G N D
IC4004 BA236 M.M
Q4001
2SC4038
(O.R)
AMP
B4003
DTC144EL
INVERTER
IC4003 LA7120
CTL SIGNAL PROCESS
POWER UP
XVS
FF+REW+SEARCH
INDEX SIG
STILL SLOW
IDX A MUTE
R/P CTL
W+E TRAP
REC
CTL AMP SW
CN4002
CTL (+)
CTL (-)
G N D
TO MC-6
CN3751

VOLTAGE: REC (PLAY) MODE

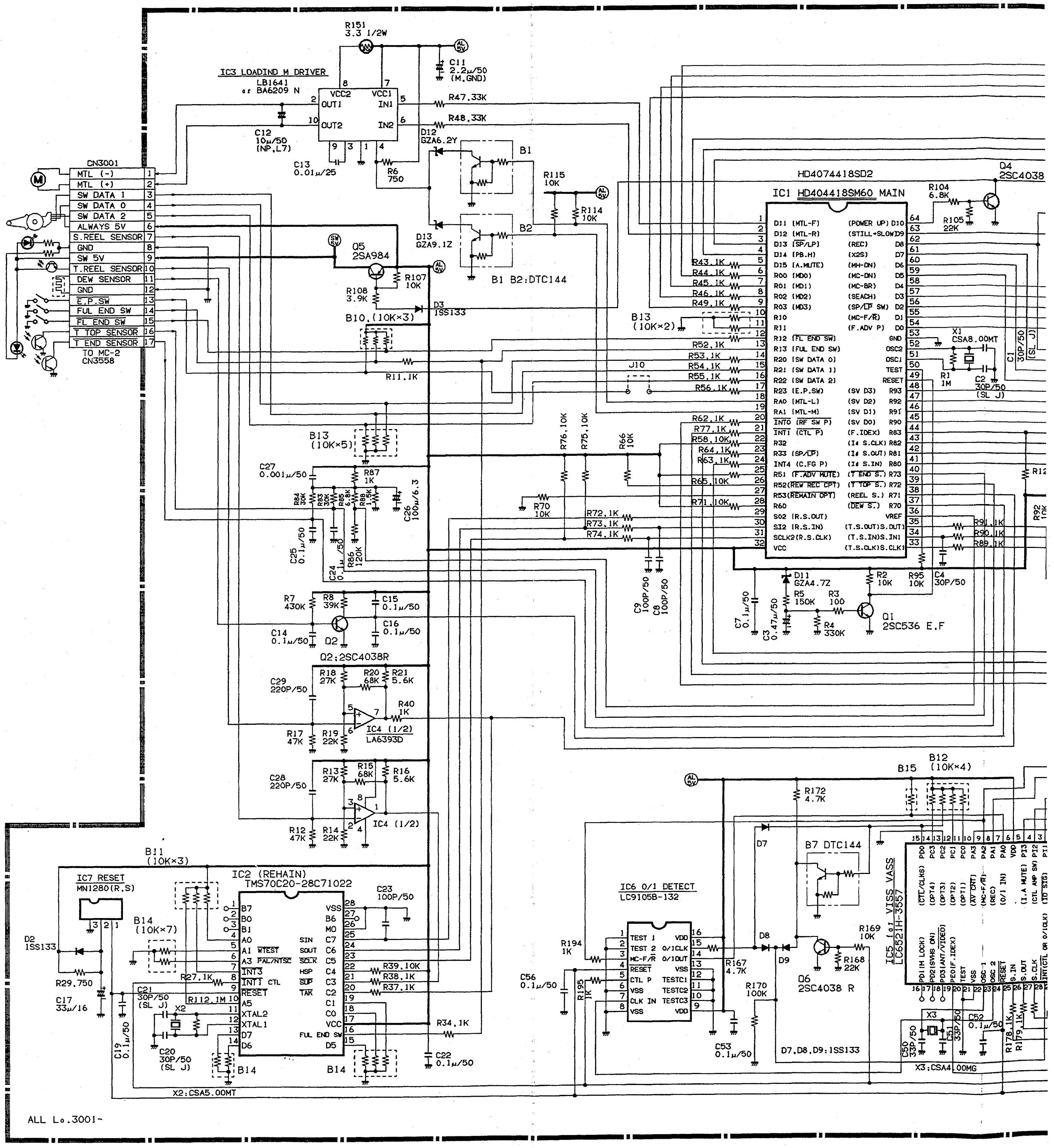
	D3	D2	D1	D0	MODE
0	0	0	0	0	STOP
1	0	0	0	1	IDX SEARCH (X5)
2	0	0	1	0	TAPE LOADING
3	0	0	1	1	FF.RWD (X7)
4	0	1	0	0	SP SPEED1
5	0	1	0	1	SP SPEED2
6	0	1	1	0	LP X 1
7	0	1	1	1	REC
8	1	0	0	0	EDIT
9	1	0	0	1	PB NOR1
A	1	0	1	0	PB NOR2
B	1	0	1	1	PB X 2
C	1	1	0	0	SEARCH (X9)
D	1	1	0	1	1/3 SLOW
E	1	1	1	0	SLOW
F	1	1	1	1	INSERT

16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

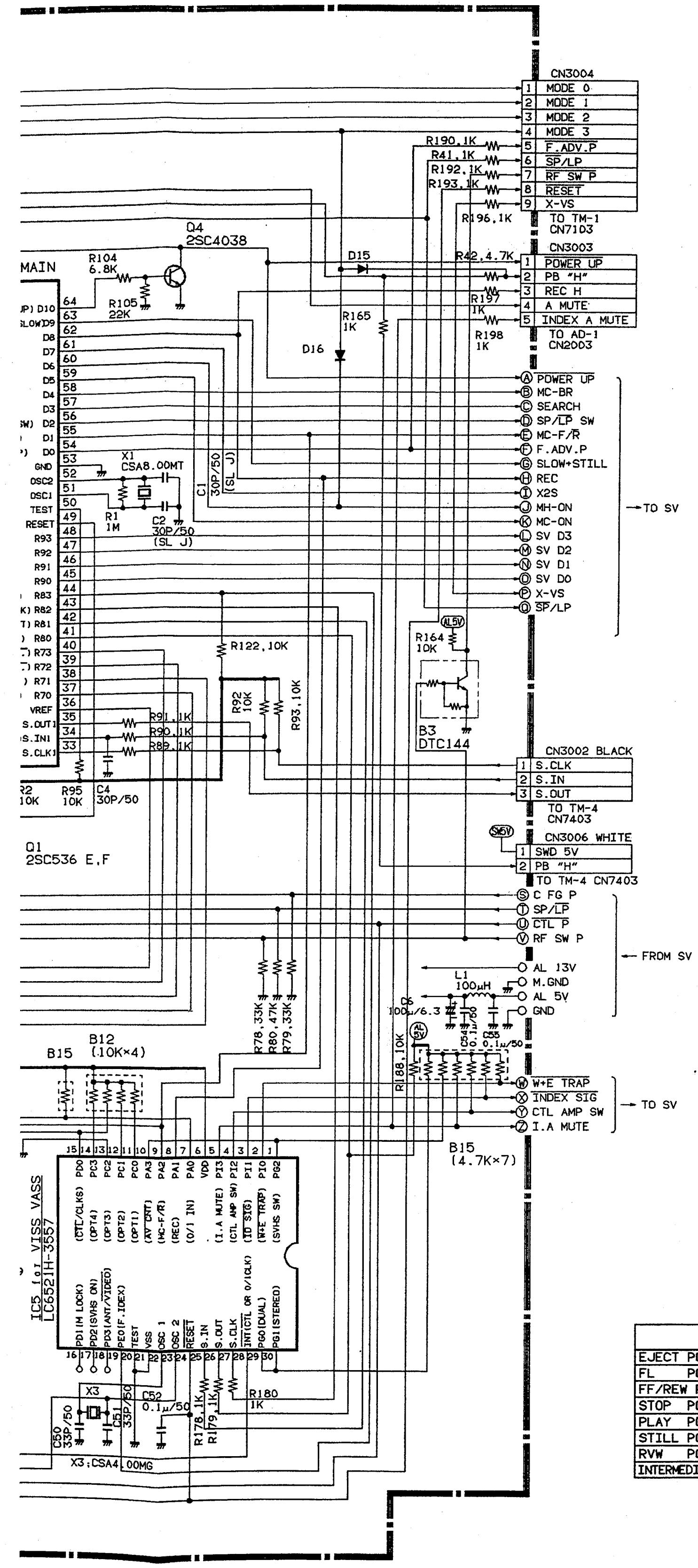
WAVEFORM OF SERVO


IC4001(LC7413-8042)
① 650mVpp 4.43MHz
② 0.3msec 5V 20msec
⑦ ⑧ ⑨ 5V 20msec 20msec
⑪ 0.2msec 3V 20 msec
⑫ REC 0.5V 0.2V 24msec 16msec
P.B. 4.2V 24msec 16msec
⑬ REC P.B.…4.8VDC 5V 24msec 16msec
⑭ ⑮ 5V 20 msec
⑰ 4.2V 20msec 20msec
⑱ 4.2V 1.6 msec = 625Hz
⑲ 5V 8.59KHz
⑳ 5V 2.15KHz
㉒ 5V 8.59KHz
㉓ 5V 2.15KHz
㉕ ㉖ 4.2V 1512KHz
㉜ 3V 18msec 22 msec
㉟ 5V 2.6 msec
IC4002(LA7116)
① 4.2V 1.6msec
② 2.5Vp-p
⑤ 1.5mV p-p
⑭ 4.3V 40msec
⑮ 150mV p-p 40msec
⑰ 1.5mV p-p 0.66msec
⑱ 4.2V 0.66msec
㉒ 1.5Vp-p 0.66msec
㉓ 4.2V 0.66 msec
IC4003(LA7120)
① 4.4V 24msec 16msec
② 4.4V 24msec 16msec
⑧ 4V 24msec 16msec
⑪ 4.2V 24msec 16msec
⑬ P.B. 12Vp-p 40 msec
⑭ P.B 1.2Vp-p
⑱ 0.6Vp-p
IC4004(BA236)
③ 0.3msec 2V 20 msec
④ 3.6V 0.2 msec 20 msec
⑥ 5V 20 20 msec
⑦ 0.15msec 2V 40 msec
⑧ 0.15msec 4.3V 40 msec

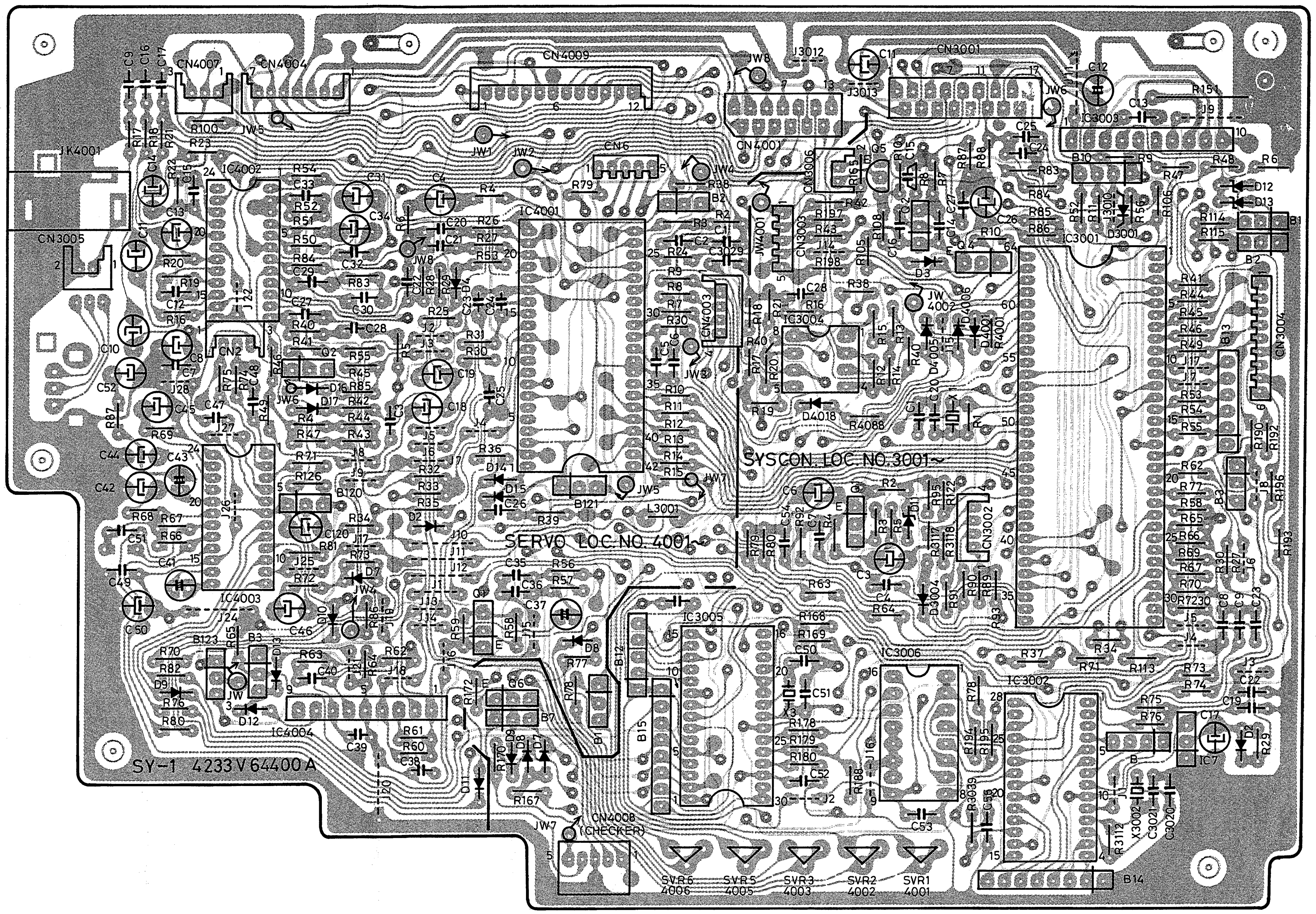
P.C.B. SY-1 SYSTEM CONTROL CIRCUIT (143-0-233V-64423)


R151 3.3 1/2W
C11 2.2μ/50 (M,GND)
IC3 LOADIND M DRIVER LB1641 or BA6209 N
VCC2 VCC1 OUT1 IN1 OUT2 IN2
R47,33K
R48,33K
C12 10μ/50 (NP,L7)
C13 0.01μ/25
R6 750
D12 GZA6.2Y
B1
B2
D13 GZA9.1Z
B1 B2:DTC144
R115 10K
R114 10K
CN3001
MTL (-)
MTL (+)
SW DATA 1
SW DATA 0
SW DATA 2
ALWAYS 5V
S.REEL SENSOR
GND
SW 5V
T.REEL SENSOR
DEW SENSOR
GND
E.P.SW
FUL END SW
FL END SW
T TOP SENSOR
T END SENSOR
TO MC-2 CN3558
Q5 2SA984
R108 3.9K
R107 10K
B10 (10K×3)
D3 1SS133
R11.1K
HD4074418SD2
IC1 HD404418SM60 MAIN
R104 6.8K
R105 22K
D4 2SC4038
B13 (10K×2)
J10
X1 CSA8.00MT
R1 1M
C2 30P/50 (SL J)
C1 30P/50 (SL J)
B13 (10K×5)
C27 0.001μ/50
R87 1K
C26 100μ/6.3
R86 120K
C25 0.1μ/50
C24 0.1μ/50
R70 10K
R76 10K
R75 10K
R66 10K
C9 100P/50
C8 100P/50
D11 GZA4.7Z
R5 150K
R3 100
R4 330K
R2 10K
R95 10K
C4 30P/50
Q1 2SC536 E,F
C7 0.1μ/50
C3 0.47μ/50
R7 430K
R8 39K
C15 0.1μ/50
C16 0.1μ/50
C14 0.1μ/50
Q2:2SC4038R
C29 220P/50
R18 27K
R20 68K
R21 5.6K
R40 1K
R17 47K
R19 22K
IC4 (1/2) LA6393D
C28 220P/50
R13 27K
R15 68K
R16 5.6K
R12 47K
R14 22K
IC4 (1/2)
B11 (10K×3)
IC7 RESET MN1280(R.S)
IC2 (REHAIN) TMS70C20-28C71022
B14 (10K×7)
C23 100P/50
D2 1SS133
R29,750
C17 33μ/16
C19 0.1μ/50
C20 30P/50 (SL J)
X2
C21 30P/50 (SL J)
R27,1K
R112,1M
R39,10K
R38,1K
R37,1K
R34,1K
C22 0.1μ/50
B14
X2:CSA5.00MT
ALL Lo.3001~
B15
B12 (10K×4)
R172 4.7K
B7 DTC144
IC6 0/1 DETECT LC9105B-132
R194 1K
R195 1K
C56 0.1μ/50
R167 4.7K
R170 100K
C53 0.1μ/50
D8
D9
Q6 2SC4038 R
R169 10K
R168 22K
D7,D8,D9:1SS133
IC5 LC6521H-3957
X3
C52 0.1μ/50
X3:CSA4.00MG

33V-64423)


CN3004
1 MODE 0
2 MODE 1
3 MODE 2
4 MODE 3
5 F.ADV.P
6 SP/LP
7 RF SW P
8 RESET
9 X-VS
TO TM-1 CN7103
CN3003
1 POWER UP
2 PB "H"
3 REC H
4 A MUTE
5 INDEX A MUTE
TO AD-1 CN2003
Ⓐ POWER UP
Ⓑ MC-BR
Ⓒ SEARCH
Ⓓ SP/LP SW
Ⓔ MC-F/R
Ⓕ F.ADV.P
Ⓖ SLOW+STILL
Ⓗ REC
Ⓘ X2S
Ⓙ MH-ON
Ⓚ MC-ON
Ⓛ SV D3
Ⓜ SV D2
Ⓝ SV D1
Ⓞ SV D0
Ⓟ X-VS
Ⓠ SP/LP
→ TO SV
CN3002 BLACK
1 S.CLK
2 S.IN
3 S.OUT
TO TM-4 CN7403
CN3006 WHITE
1 SWD 5V
2 PB "H"
TO TM-4 CN7403
Ⓢ C FG P
Ⓣ SP/LP
Ⓤ CTL P
Ⓥ RF SW P
← FROM SV
AL 13V
M.GND
AL 5V
GND
Ⓦ W+E TRAP
Ⓧ INDEX SIG
Ⓨ CTL AMP SW
Ⓩ I.A MUTE
→ TO SV
MAIN
Q4 2SC4038
R104 6.8K
R105 22K
D15
D16
R165 1K
R197 1K
R198 1K
R190,1K
R41,1K
R192,1K
R193,1K
R196,1K
R42,4.7K
X1 CSA8.00MT
R1 1M
C1 30P/50 (SL J)
C2 30P/50 (SL J)
R122,10K
R92 10K
R93,10K
R164 10K
B3 DTC144
R91,1K
R90,1K
R89,1K
R95 10K
C4 30P/50
Q1 2SC536 E.F
L1 100μH
C6 100μ/6.3
C53 0.1μ/50
R188,10K
R78,33K
R80,47K
R79,33K
B12 (10K×4)
B15
B15 (4.7K×7)
IC5 LC6521H-3557
X3
C52 0.1μ/50
R180 1K
X3:CSA4.00MG

P.C.B. SY-1 SYSTEM CONTROL & SERVO (143-0-233V-64423)


CN4007
CN4004
CN4009
J3012
CN3001
JW8
J3013
JW6
IC3003
CN4001
IC4002
IC4001
CN6
JW1
JW2
JW4
JW5
JW7
JK4001
CN3005
CN2
IC4003
IC4004
IC3004
IC3001
IC3005
IC3006
IC3002
IC7
CN3002
CN3004
CN4003
CN4008 (CHECKER)
SYSCON LOC NO.3001~
SERVO LOC NO.4001~
L3001
B121
B120
B123
X3002
C3020
SVR6 4006
SVR5 4005
SVR3 4003
SVR2 4002
SVR1 4001
B14
SY-1 4233V64400A

SERVO INTERFACE

MODE	D3	D2	D1	D0	HEX
STOP	0	0	0	0	0
—	0	0	0	1	1
TL	0	0	1	0	2
FF REW.FL FUL	0	0	1	1	3
TL	0	1	0	0	4
TUL	0	1	0	1	5
MODE CHANGE	0	1	1	0	6
REC	0	1	1	0	7
PAUSE	1	0	0	0	8
MODE CHANGE PLAY	1	0	0	1	9
PLAY-A	1	0	1	0	A
X2S	1	0	1	1	B
CUE RVW	1	1	0	0	C
—	1	1	0	1	D
SLOW.STILL	1	1	1	0	E
—	1	1	1	1	F

MECHANISM SWITCH

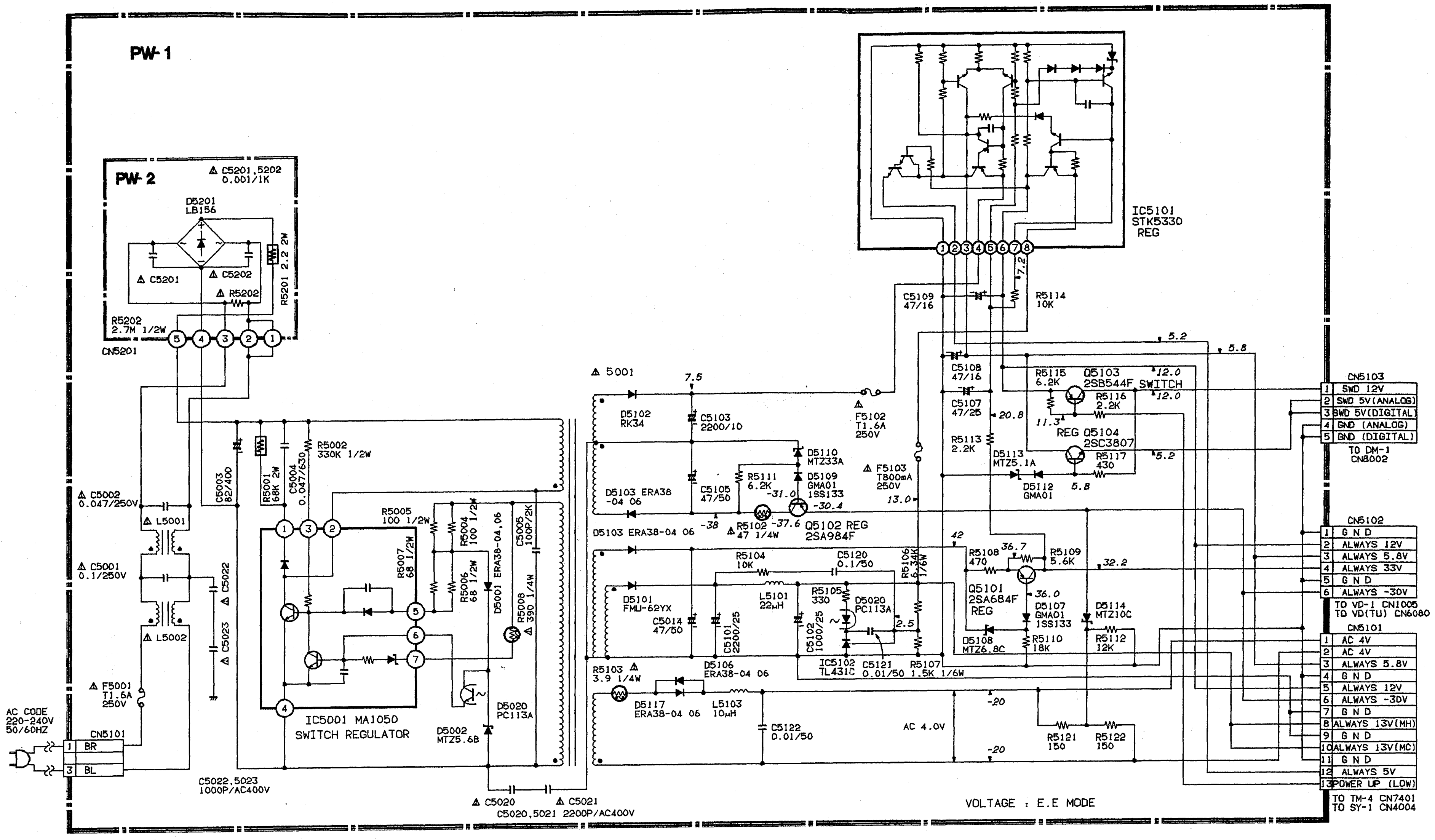
	SW DATA2	SW DATA1	SW DATA0	HEX
EJECT POS	0	0	1	1
FL POS	1	1	1	7
FF/REW POS	0	1	0	2
STOP POS	0	1	1	3
PLAY POS	1	0	0	4
STILL POS	1	0	1	5
RVW POS	1	1	0	6
INTERMEDIATE POS	0	0	0	0

❶
FVH-D40HV
FVH-D40S

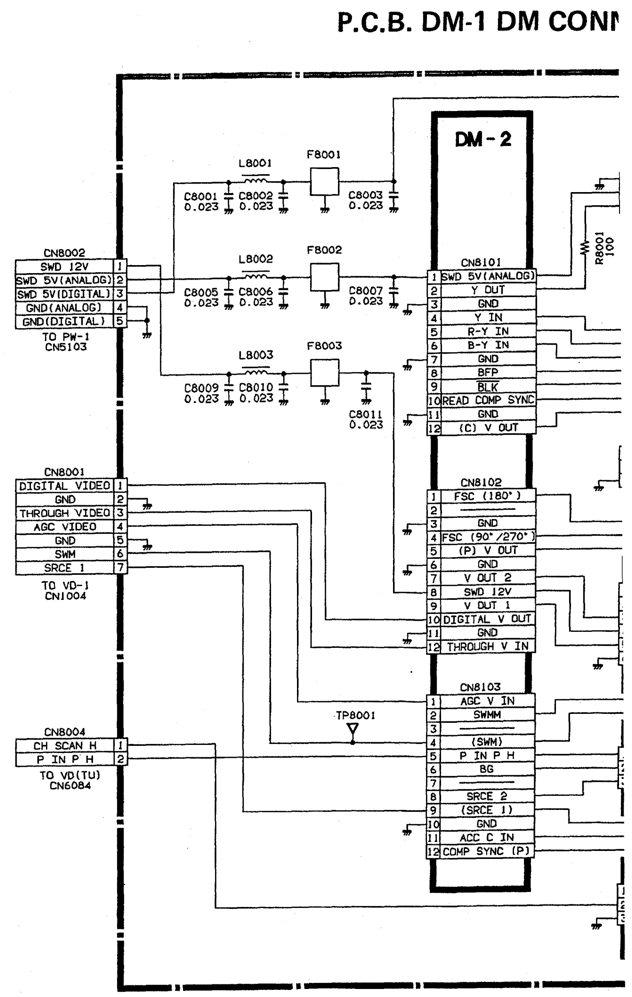
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

P.C.B. PW-1, 2 POWER SUPPLY CIRCUIT & P.C.B. (PW-1 143-0-233V-63271)
(PW-2 143-0-233V-63350)

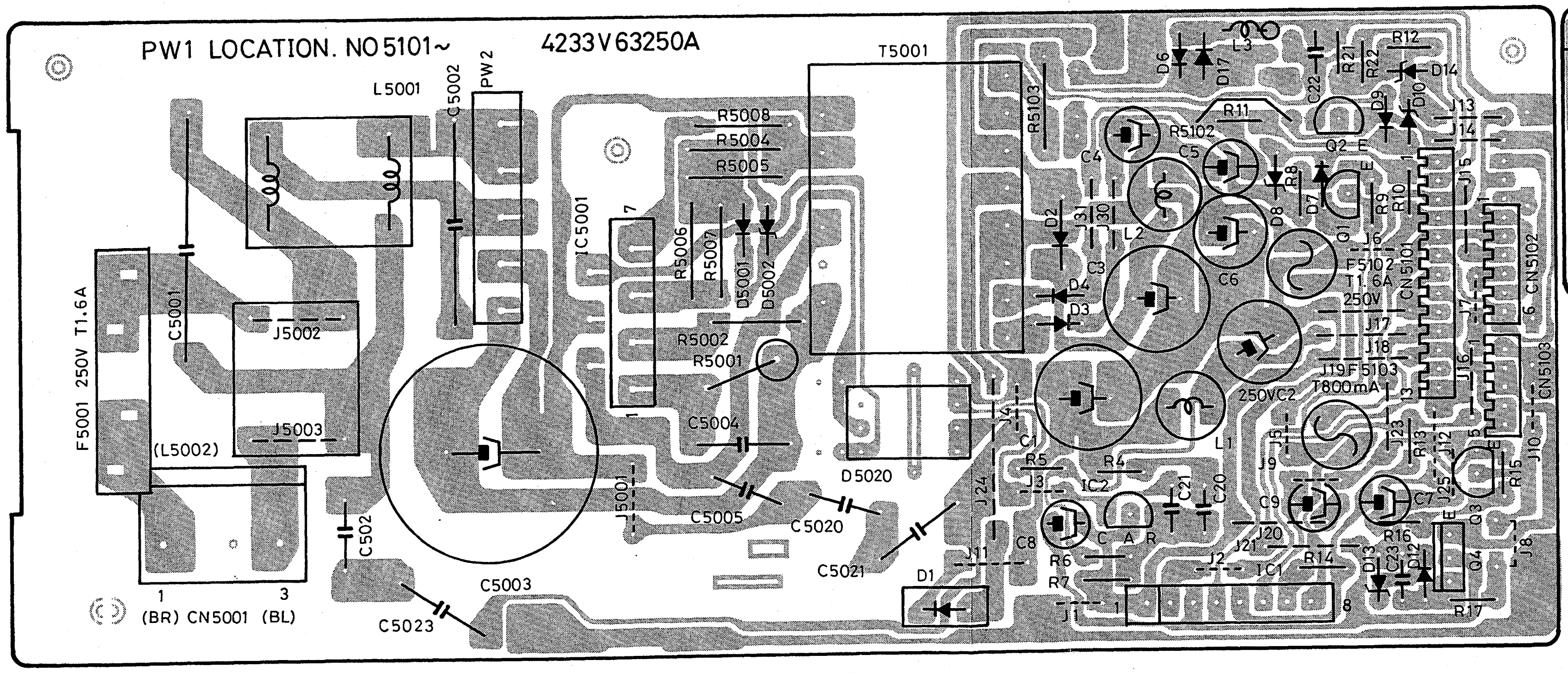
FVH-D40HV
FVH-D40S



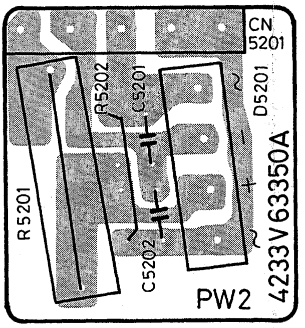
PW-1
PW-2
⚠ C5201,5202 0.001/1K
D5201 LB156
⚠ C5201
⚠ C5202
⚠ R5202
R5201 2.2 2W
R5202 2.7M 1/2W
CN5201
⚠ C5002 0.047/250V
⚠ L5001
⚠ C5001 0.1/250V
⚠ L5002
⚠ C5022
⚠ C5023
⚠ F5001 T1.6A 250V
AC CODE 220-240V 50/60HZ
CN5101
BR
BL
C5022,5023 1000P/AC400V
C5003 82/400
R5001 68K 2W
C5004 0.047/630
R5002 330K 1/2W
R5005 100 1/2W
R5007 68 1/2W
R5004 100 1/2W
R5006 68 1/2W
D5001 ERA38-04.06
C5005 100P/2K
R5008 ⚠ 390 1/4W
IC5001 MA1050 SWITCH REGULATOR
D5002 MTZ5.6B
D5020 PC113A
⚠ C5020
⚠ C5021
C5020,5021 2200P/AC400V
⚠ 5001
7.5
D5102 RK34
C5103 2200/10
D5103 ERA38 -04 06
C5105 47/50
R5111 6.2K
D5110 MTZ33A
D5109 GMA01 1SS133
⚠ R5102 47 1/4W
Q5102 REG 2SA984F
D5103 ERA38-04 06
⚠ F5102 T1.6A 250V
⚠ F5103 T800mA 250V
IC5101 STK5330 REG
C5109 47/16
R5114 10K
C5108 47/16
C5107 47/25
R5113 2.2K
D5113 MTZ5.1A
D5112 GMA01
R5115 6.2K
Q5103 2SB544F SWITCH
R5116 2.2K
REG Q5104 2SC3807
R5117 430
R5104 10K
C5120 0.1/50
R5105 330
D5020 PC113A
D5101 FMU-62YX
C5014 47/50
C5101 2200/25
L5101 22μH
C5102 1000/25
R5106
R5108 470
R5109 5.6K
Q5101 2SA684F REG
D5107 GMA01 1SS133
D5114 MTZ10C
D5108 MTZ6.8C
R5110 18K
R5112 12K
IC5102 TL431C
C5121 0.01/50
R5107 1.5K 1/6W
⚠ R5103 3.9 1/4W
D5106 ERA38-04 06
D5117 ERA38-04 06
L5103 10μH
C5122 0.01/50
AC 4.0V
R5121 150
R5122 150
VOLTAGE : E.E MODE
CN5103
1 SWD 12V
2 SWD 5V(ANALOG)
3 SWD 5V(DIGITAL)
4 GND (ANALOG)
5 GND (DIGITAL)
TO DM-1 CN8002
CN5102
1 GND
2 ALWAYS 12V
3 ALWAYS 5.8V
4 ALWAYS 33V
5 GND
6 ALWAYS -30V
TO VD-1 CN1005
TO VD(TU) CN6080
CN5101
1 AC 4V
2 AC 4V
3 ALWAYS 5.8V
4 GND
5 ALWAYS 12V
6 ALWAYS -30V
7 GND
8 ALWAYS 13V(MH)
9 GND
10 ALWAYS 13V(MC)
11 GND
12 ALWAYS 5V
13 POWER UP (LOW)
TO TM-4 CN7401
TO SY-1 CN4004



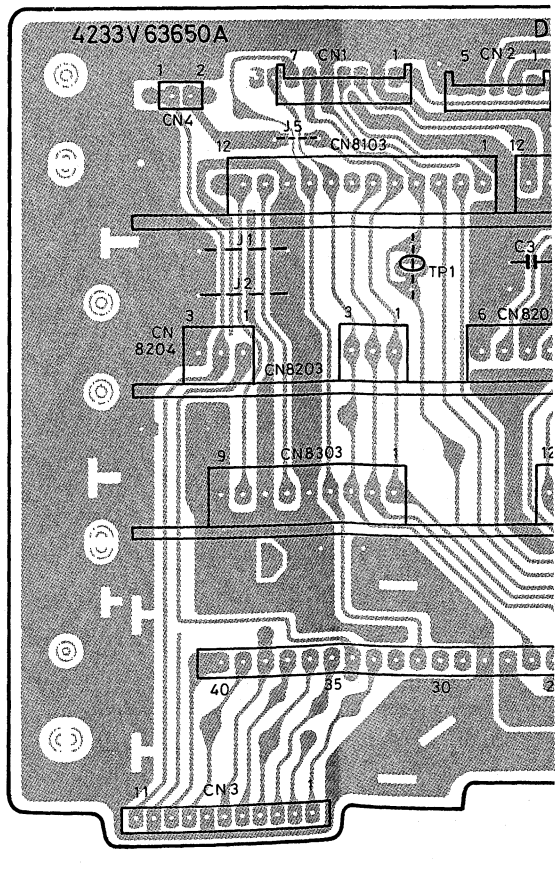
P.C.B. DM-1 DM CONN
DM-2
L8001 F8001 L8002 F8002 L8003 F8003
C8001 0.023 C8002 0.023 C8003 0.023
C8005 0.023 C8006 0.023 C8007 0.023
C8009 0.023 C8010 0.023 C8011 0.023
R8001 100
CN8002
1 SWD 12V
2 SWD 5V(ANALOG)
3 SWD 5V(DIGITAL)
4 GND(ANALOG)
5 GND(DIGITAL)
TO PW-1 CN5103
CN8101
1 SWD 5V(ANALOG)
2 Y OUT
3 GND
4 Y IN
5 R-Y IN
6 B-Y IN
7 GND
8 BFP
9 BLK
10 READ COMP SYNC
11 GND
12 (C) V OUT
CN8001
1 DIGITAL VIDEO
2 GND
3 THROUGH VIDEO
4 AGC VIDEO
5 GND
6 SWM
7 SRCE 1
TO VD-1 CN1004
CN8102
1 FSC (180°)
2
3 GND
4 FSC (90°/270°)
5 (P) V OUT
6 GND
7 V OUT 2
8 SWD 12V
9 V OUT 1
10 DIGITAL V OUT
11 GND
12 THROUGH V IN
CN8103
1 AGC V IN
2 SWMM
3
4 (SWM)
5 P IN P H
6 BG
7
8 SRCE 2
9 (SRCE 1)
10 GND
11 ACC C IN
12 COMP SYNC (P)
TP8001
CN8004
1 CH SCAN H
2 P IN P H
TO VD(TU) CN6084



PW1 LOCATION. NO5101~
4233V63250A
L5001
C5002
PW2
T5001
R5008
R5004
R5005
IC5001
R5006
R5007
D5001
D5002
R5002
R5001
C5004
C5005
C5020
C5021
C5003
C5023
C502
C5001
J5002
J5003
F5001 250V T1.6A
(L5002)
1 (BR) CN5001 (BL) 3
J5001
D5020
D1
R5103
R5102
R11
R12
R21
R22
D6
D17
L3
D14
D9
D10
J13
J14
J15
C22
C4
C5
Q2
R8
D7
D8
R9
R10
D2
J3
L2
C6
C3
D4
D3
F5102 T1.6A 250V
CN5101
CN5102
J16
J17
J18
J19 F5103 T800mA
250VC2
L1
CN5103
J5
J9
R13
R15
J10
C1
R5
R4
J3
IC2
C21
C20
C9
C7
Q3
R16
Q4
C8
R6
R7
J11
J1
J2
J20
J21
IC1
R14
D13
C23
D12
J8
R17

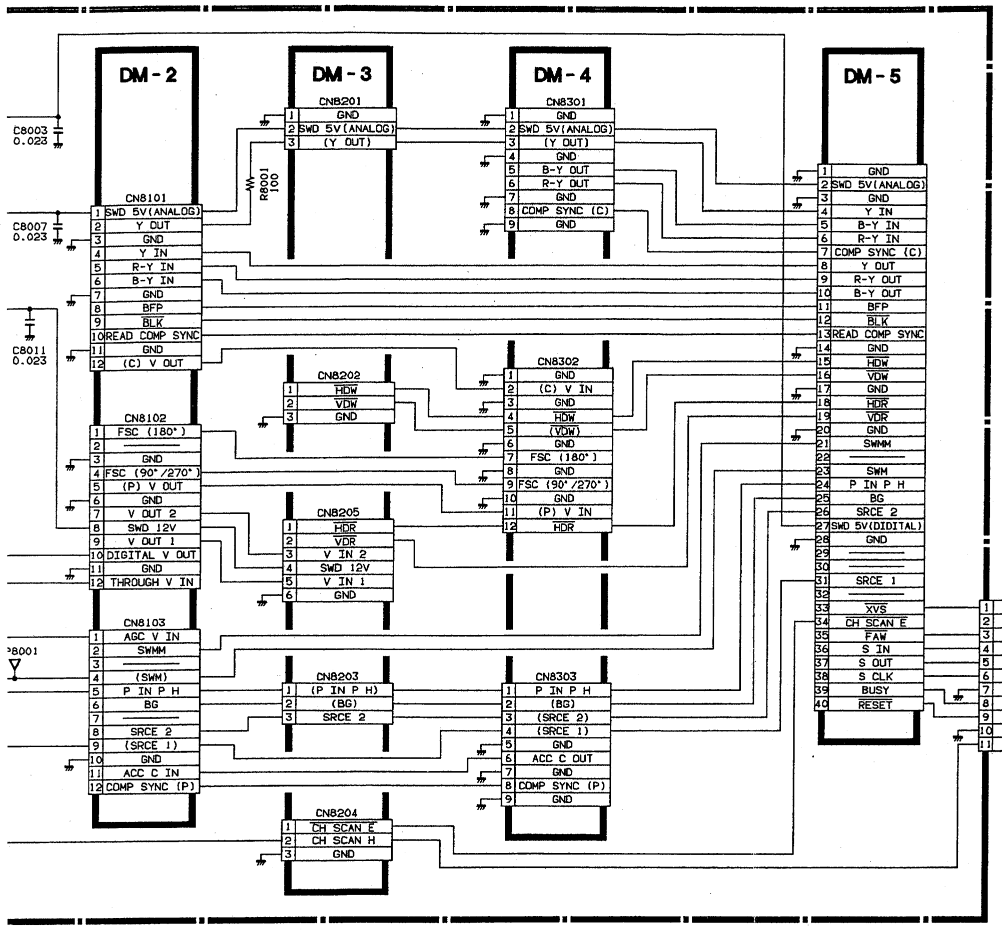


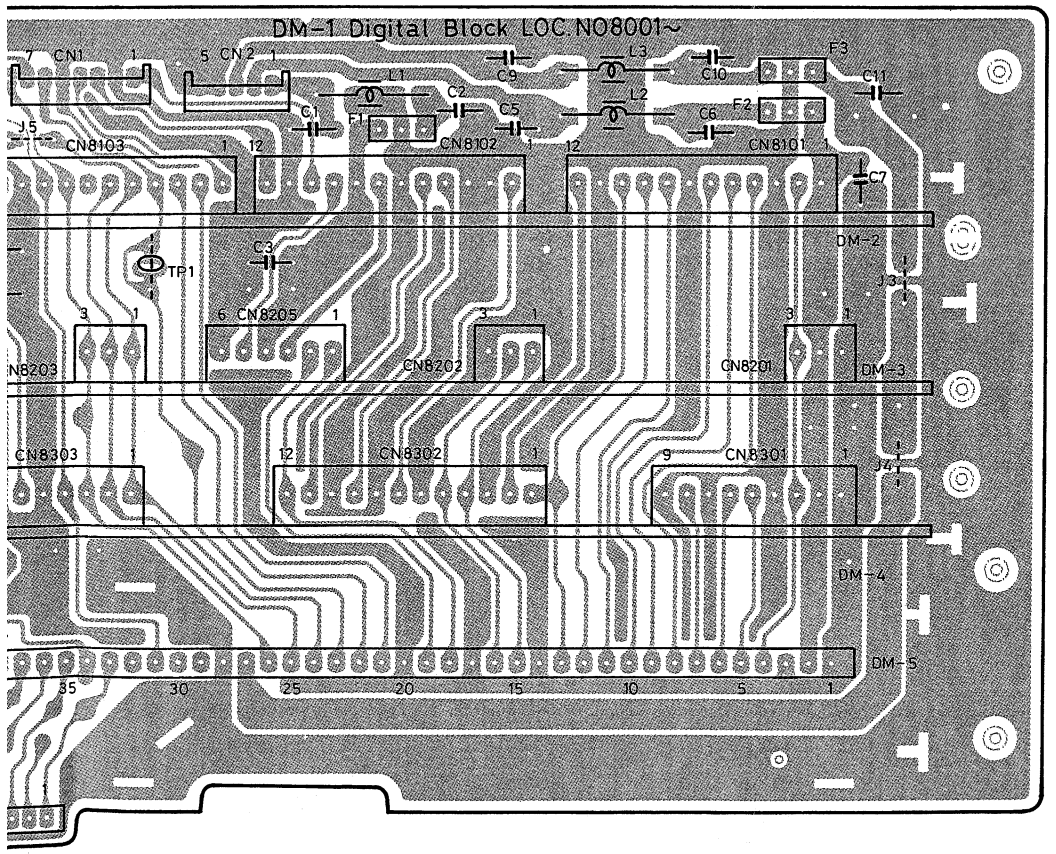
CN5201
R5202
C5201
D5201
R5201
C5202
PW2
4233V63350A



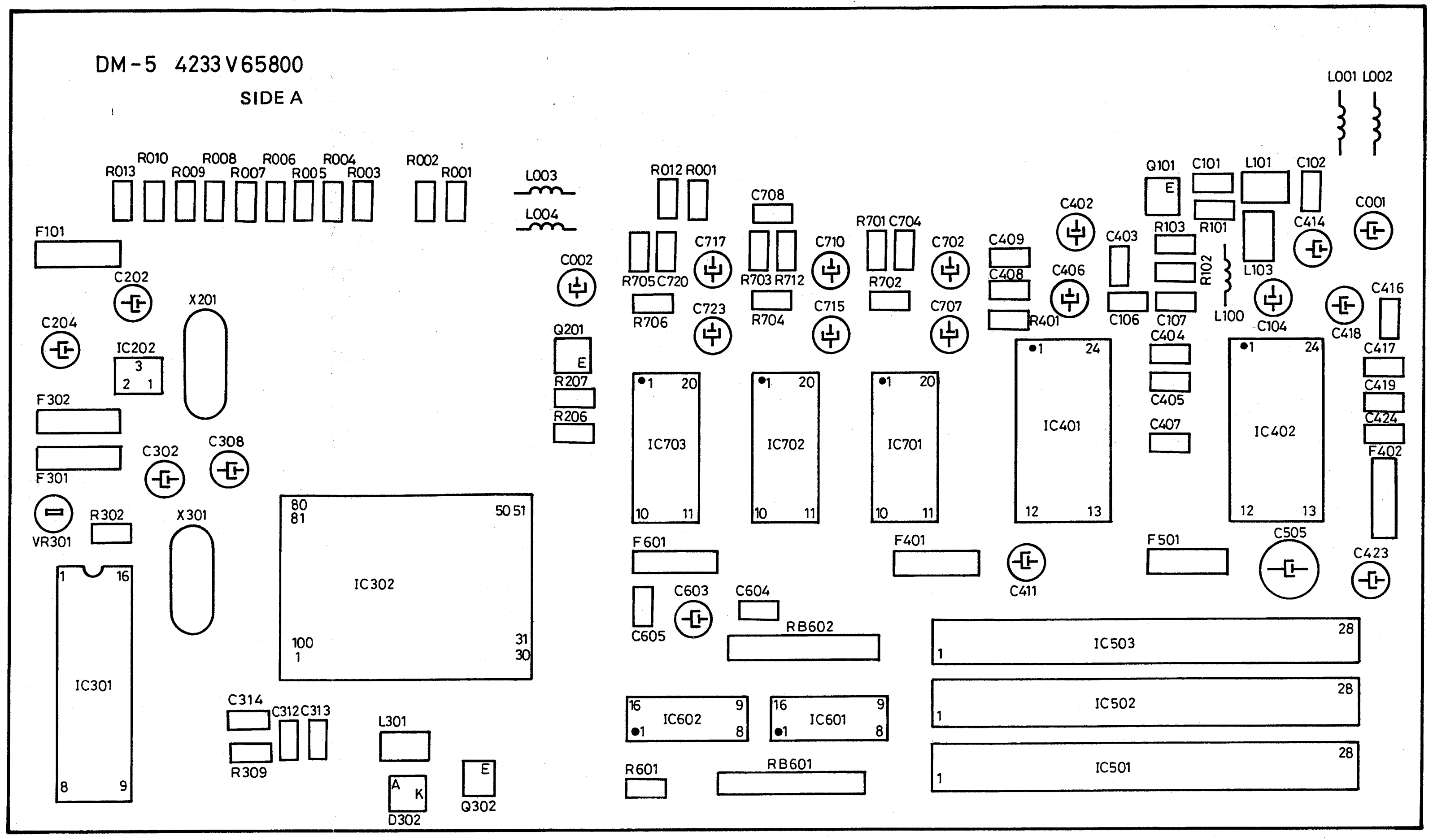
4233V63650A
CN4
CN1
CN2
J5
CN8103
J1
J2
TP1
C3
CN 8204
CN8203
CN820
CN8303
CN3
40
35
30

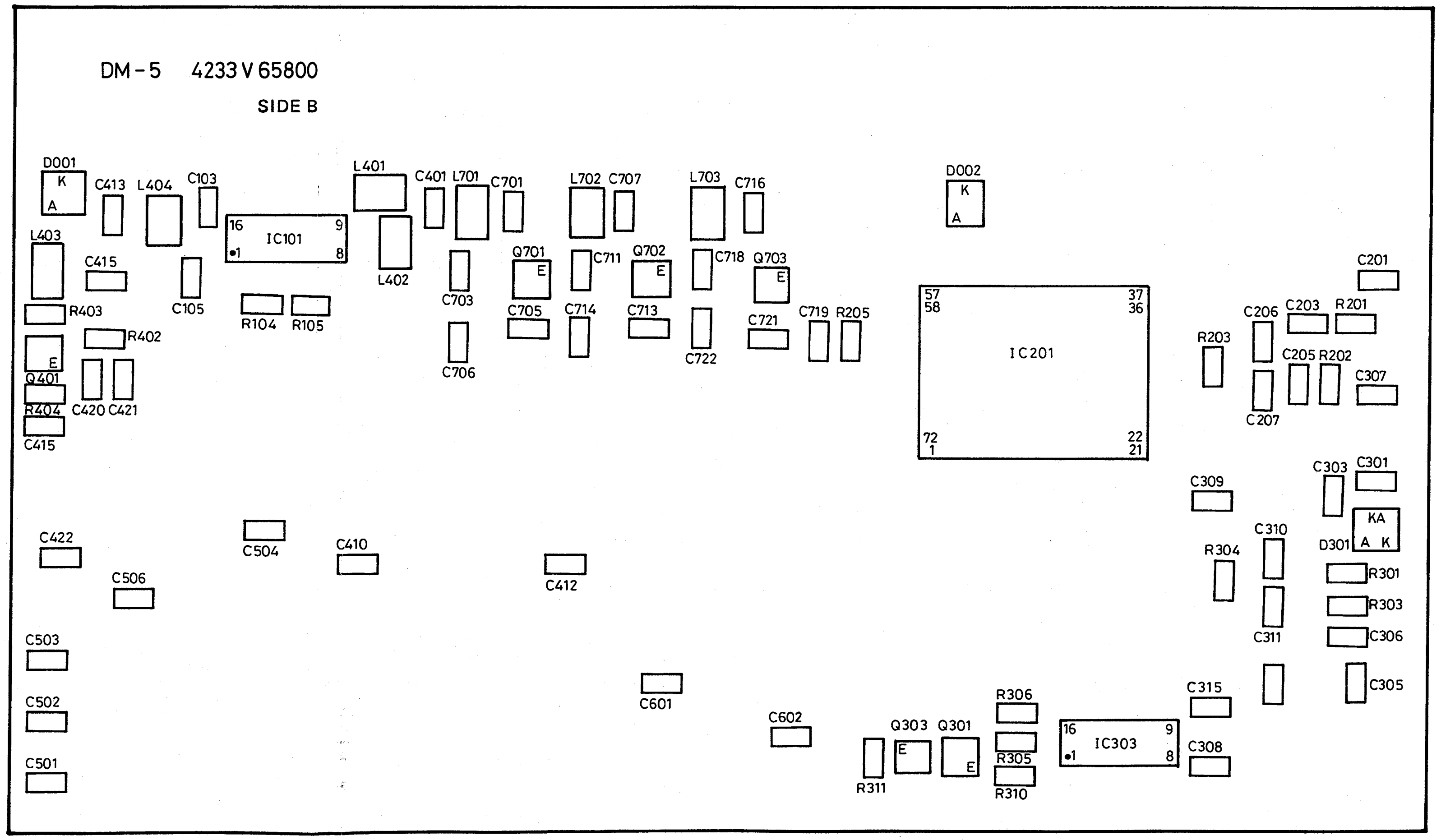
P.C.B. DM-1 DM CONNECTION & P.C.B. (143-0-233V-63650)


DM-2
DM-3
DM-4
DM-5
CN8101
CN8102
CN8103
CN8201
CN8202
CN8203
CN8204
CN8205
CN8301
CN8302
CN8303
CN8003
C8003 0.023
C8007 0.023
C8011 0.023
R8001 100
SWD 5V (ANALOG)
Y OUT
GND
Y IN
R-Y IN
B-Y IN
BFP
BLK
READ COMP SYNC
(C) V OUT
FSC (180°)
FSC (90°/270°)
(P) V OUT
V OUT 2
SWD 12V
V OUT 1
DIGITAL V OUT
THROUGH V IN
AGC V IN
SWHM
(SWH)
P IN P H
BG
SRCE 2
(SRCE 1)
ACC C IN
COMP SYNC (P)
HDW
VDW
HDR
VDR
V IN 2
V IN 1
CH SCAN E
CH SCAN H
XVS
FAW
S IN
S OUT
S CLK
BUSY
RESET
SWD 5V (DIGITAL)
TO TM-1 CN7102


DM-1 Digital Block LOC.NO8001~
CN1
CN2
CN8103
CN8102
CN8101
CN8205
CN8203
CN8202
CN8201
CN8303
CN8302
CN8301
L1
L2
L3
F1
F2
F3
C1
C2
C3
C5
C6
C7
C9
C10
C11
TP1
J3
J4
J5
DM-2
DM-3
DM-4
DM-5
35
30
25
20
15
10
5
1

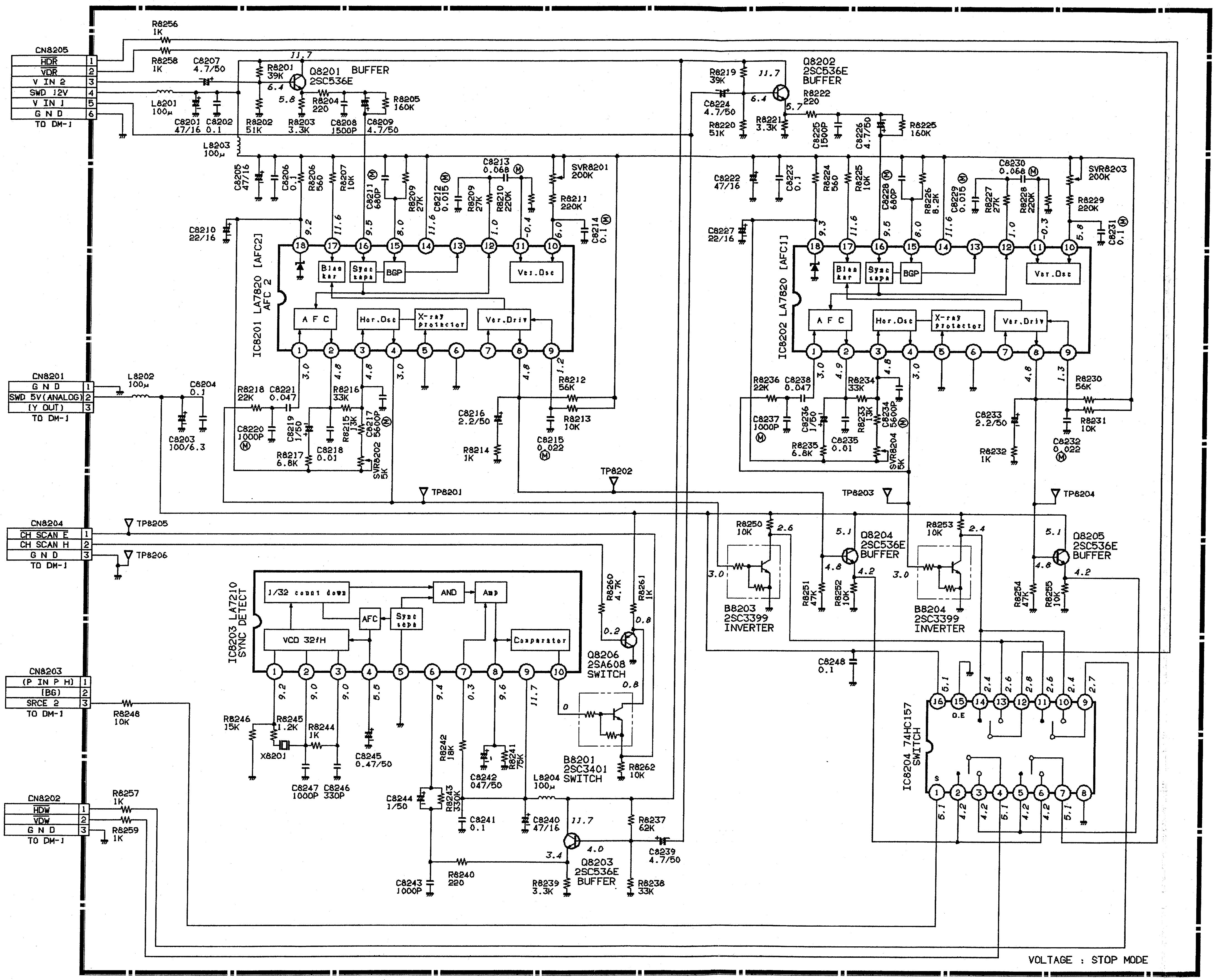
P.C.B. DM-5 DIGITAL VIDEO (143-0-233V-65800)


DM-5 4233V65800
SIDE A
R013
R010
R009
R008
R007
R006
R005
R004
R003
R002
R001
L003
L004
L001
L002
F101
F302
F301
VR301
C202
C204
IC202
X201
X301
C302
C308
R302
IC301
IC302
C314
C312
C313
R309
L301
D302
Q302
C002
Q201
R207
R206
R012
R001
C708
R705
C720
C717
R703
R712
C710
R701
C704
C702
R702
R706
C723
R704
C715
C707
IC703
IC702
IC701
F601
F401
F501
C603
C604
C605
RB602
RB601
IC602
IC601
R601
C409
C408
C402
C406
R401
IC401
C403
C106
C107
C404
C405
C407
Q101
C101
L101
C102
R103
R101
R102
L100
L103
C104
IC402
C414
C001
C416
C418
C417
C419
C424
F402
C505
C423
C411
IC503
IC502
IC501


DM-5 4233V65800
SIDE B
D001
C413
L404
C103
L403
C415
R403
R402
Q401
R404
C420
C421
C105
IC101
L401
L402
C401
L701
C701
R104
R105
C703
C706
Q701
C705
L702
C707
C711
C714
Q702
C713
L703
C716
C718
Q703
C722
C721
C719
R205
D002
IC201
C201
C206
C203
R201
R203
C205
R202
C207
C307
C309
C303
C301
C310
R304
D301
R301
R303
C306
C311
C305
C315
C308
IC303
R306
R305
R310
Q303
Q301
R311
C602
C601
C422
C506
C504
C410
C412
C503
C502
C501

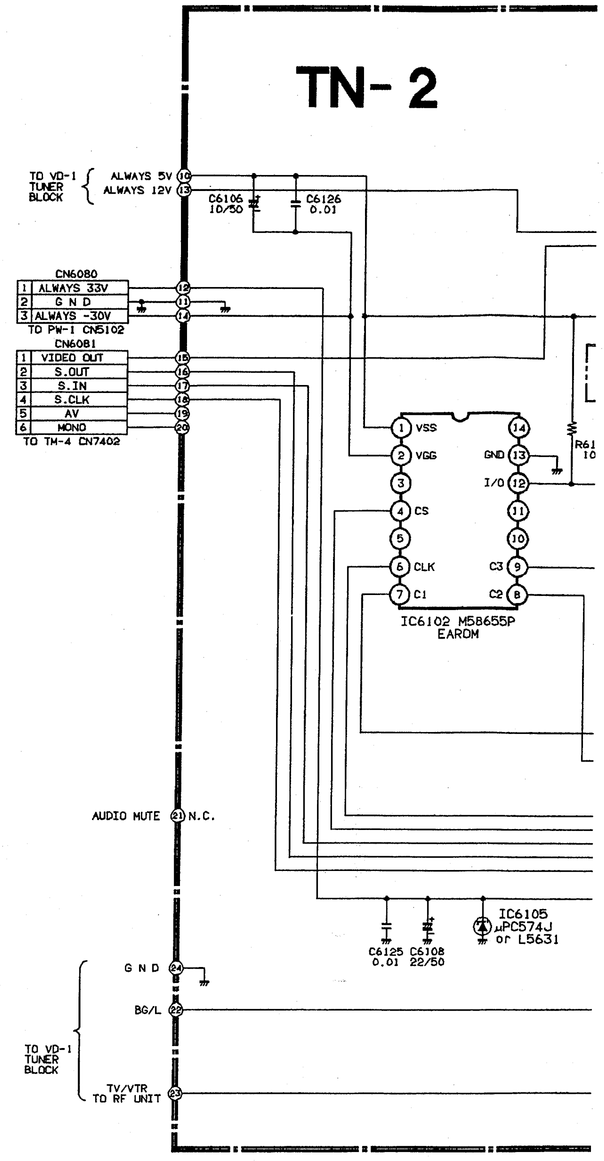
16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

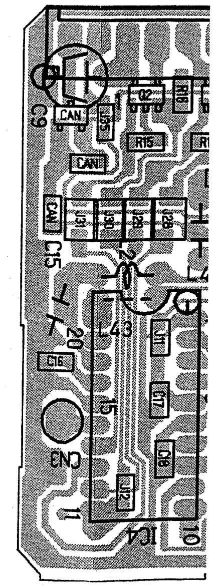
P.C.B. DM-3 SYNC. SEPARATOR CIRCUIT (143-0-233V-63800)


CN8205
HDR
VDR
V IN 2
SWD 12V
V IN 1
G N D
TO DM-1
R8256 1K
R8258 1K
C8207 4.7/50
L8201 100μ
C8201 47/16
C8202 0.1
R8201 39K
Q8201 BUFFER 2SC536E
R8204 220
R8205 160K
R8202 51K
R8203 3.3K
C8208 1500P
C8209 4.7/50
L8203 100μ
C8205 47/16
C8206 0.1
R8206 560
R8207 10K
C8211 680P
R8209 27K
C8212 0.015
C8213 0.068
R8210 220K
SVR8201 200K
R8211 220K
C8214 0.1
C8210 22/16
IC8201 LA7820 [AFC2] AFC 2
Blan kar
Sync sepa
BGP
Ver.Osc
AFC
Hor.Osc
X-ray protector
Ver.Driv
CN8201
G N D
SWD 5V(ANALOG)
(Y OUT)
TO DM-1
L8202 100μ
C8204 0.1
C8203 100/6.3
R8218 22K
C8221 0.047
R8216 33K
C8220 1000P
C8219 1/50
R8215 3K
C8217 5600P
R8217 6.8K
C8218 0.01
SVR8202 5K
C8216 2.2/50
R8212 56K
R8213 10K
C8215 0.022
R8214 1K
TP8201
TP8202
Q8202 2SC536E BUFFER
R8219 39K
C8224 4.7/50
R8220 51K
R8221 3.3K
R8222 220
C8225 1500P
C8226 4.7/50
R8225 160K
C8222 47/16
C8223 0.1
R8224 560
R8225 10K
C8228 680P
R8226 8.2K
C8229 0.015
R8227 27K
C8230 0.068
R8228 220K
SVR8203 200K
R8229 220K
C8231 0.1
C8227 22/16
IC8202 LA7820 [AFC1]
R8236 22K
C8238 0.047
R8234 33K
C8237 1000P
C8236 1/50
R8233 3K
C8234 5600P
C8235 0.01
R8235 6.8K
SVR8204 5K
C8233 2.2/50
R8230 56K
R8231 10K
R8232 1K
C8232 0.022
TP8203
TP8204
CN8204
CH SCAN E
CH SCAN H
G N D
TO DM-1
TP8205
TP8206
IC8203 LA7210 SYNC DETECT
1/32 count down
AND
Amp
AFC
Sync sepa
VCO 32fH
Comparator
R8260 4.7K
R8261 1K
Q8206 2SA608 SWITCH
R8250 10K
B8203 2SC3399 INVERTER
Q8204 2SC536E BUFFER
R8251 47K
R8252 10K
R8253 10K
B8204 2SC3399 INVERTER
Q8205 2SC536E BUFFER
R8254 47K
R8255 10K
C8248 0.1
CN8203
(P IN P H)
(BG)
SRCE 2
TO DM-1
R8248 10K
R8246 15K
R8245 1.2K
R8244 1K
X8201
C8245 0.47/50
C8247 1000P
C8246 330P
R8242 18K
C8242 047/50
R8241 75K
C8244 1/50
R8243 330K
C8241 0.1
L8204 100μ
C8240 47/16
B8201 2SC3401 SWITCH
R8262 10K
R8237 62K
C8239 4.7/50
Q8203 2SC536E BUFFER
R8240 220
C8243 1000P
R8239 3.3K
R8238 33K
IC8204 74HC157 SWITCH
CN8202
HDW
VDW
G N D
TO DM-1
R8257 1K
R8259 1K

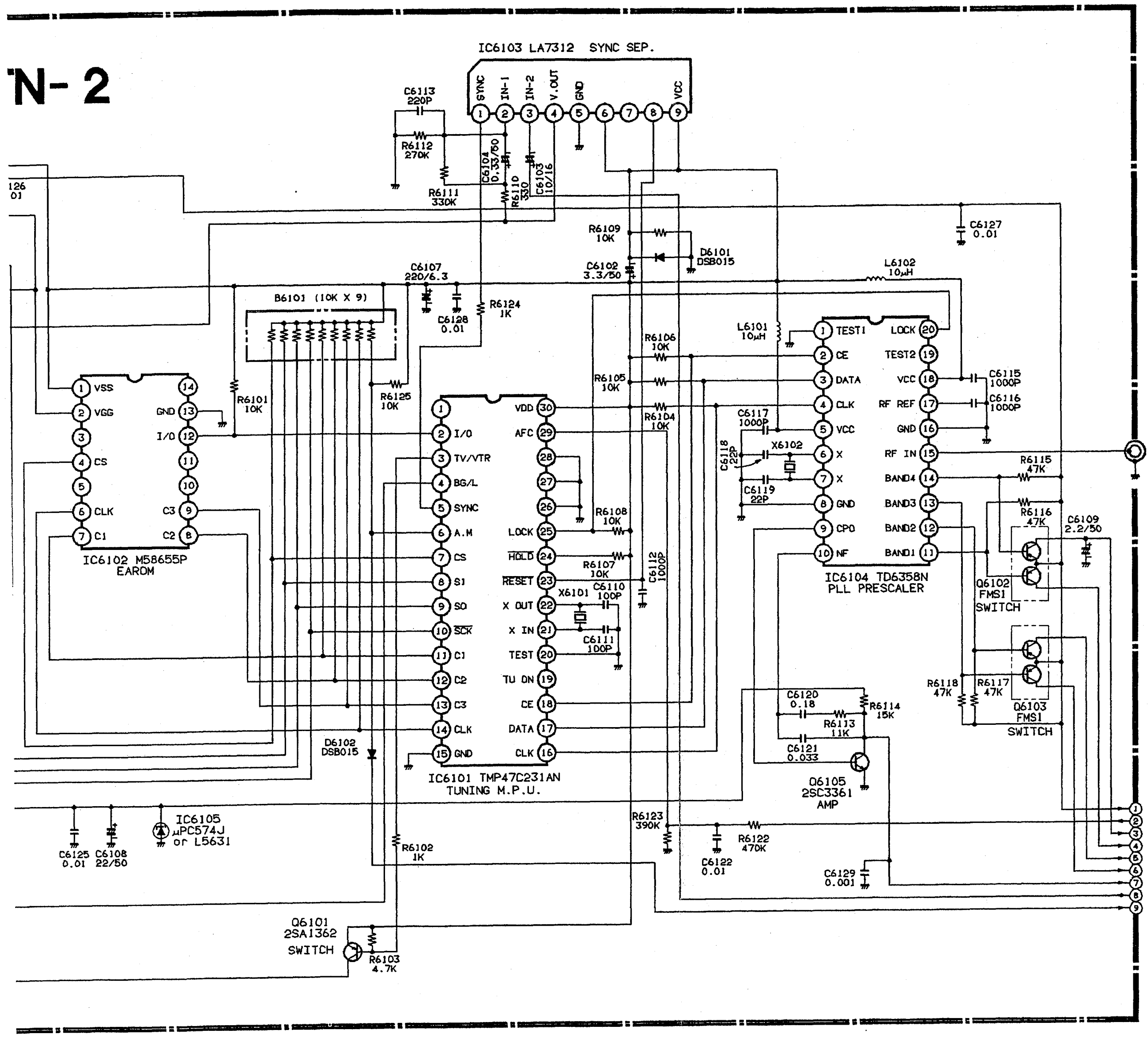
VOLTAGE : STOP MODE

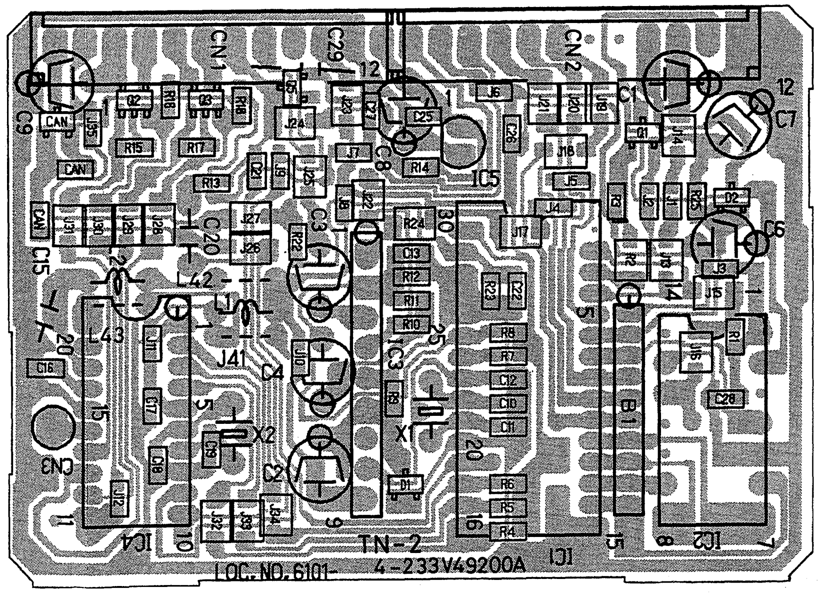
P.C.B. TN-2 T


TN- 2
TO VD-1 TUNER BLOCK
ALWAYS 5V
ALWAYS 12V
C6106 10/50
C6126 0.01
CN6080
ALWAYS 33V
G N D
ALWAYS -30V
TO PW-1 CN5102
CN6081
VIDEO OUT
S.OUT
S.IN
S.CLK
AV
MONO
TO TM-4 CN7402
IC6102 M58655P EAROM
VSS
VGG
CS
CLK
C1
GND
I/O
C3
C2
AUDIO MUTE
N.C.
C6125 0.01
C6108 22/50
IC6105 μPC574J or L5631
G N D
BG/L
TO VD-1 TUNER BLOCK
TV/VTR TO RF UNIT

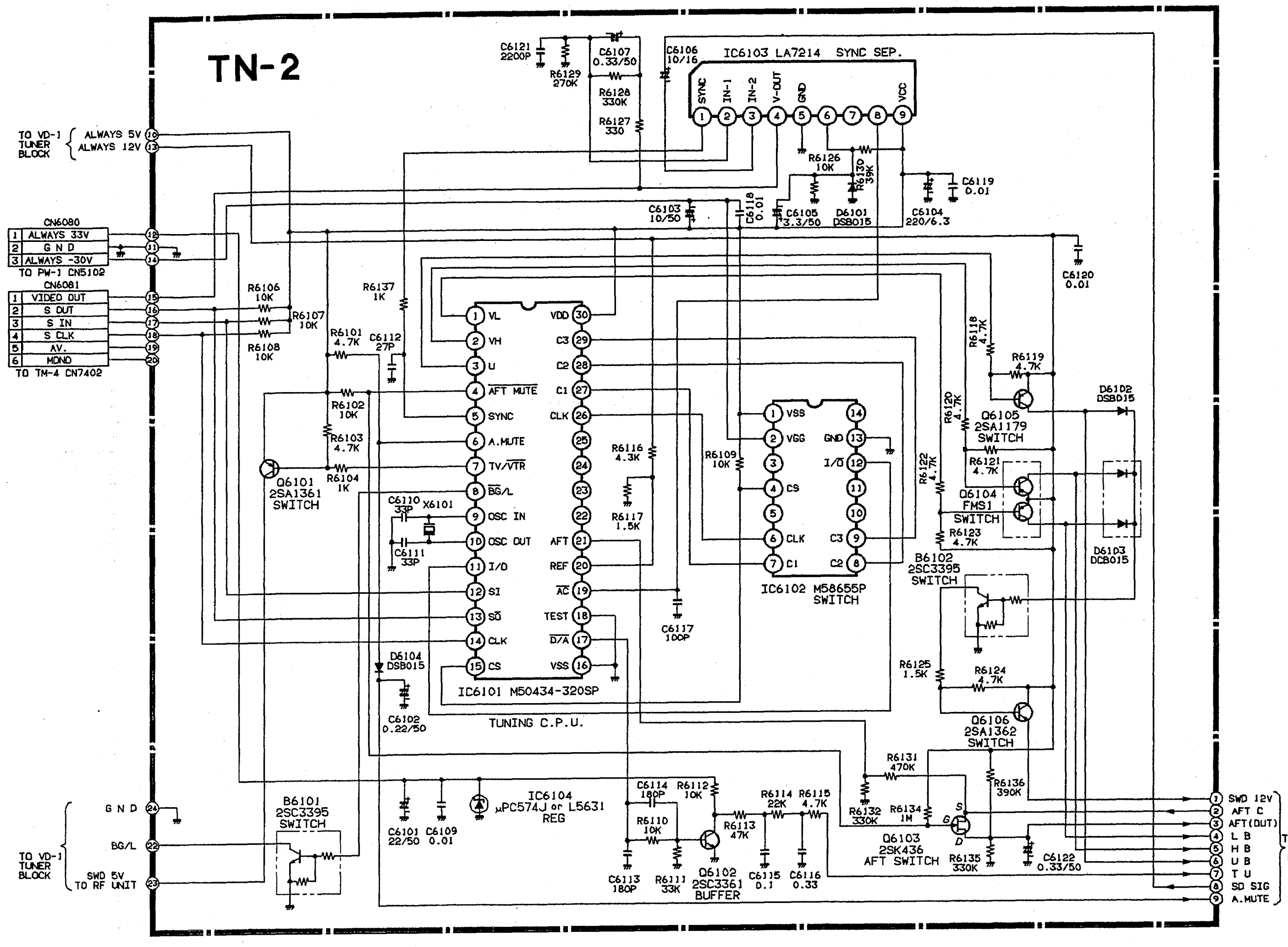

C9
CAN
C6
R15
C3
C5
L43
20
15
CN3
IC4
10

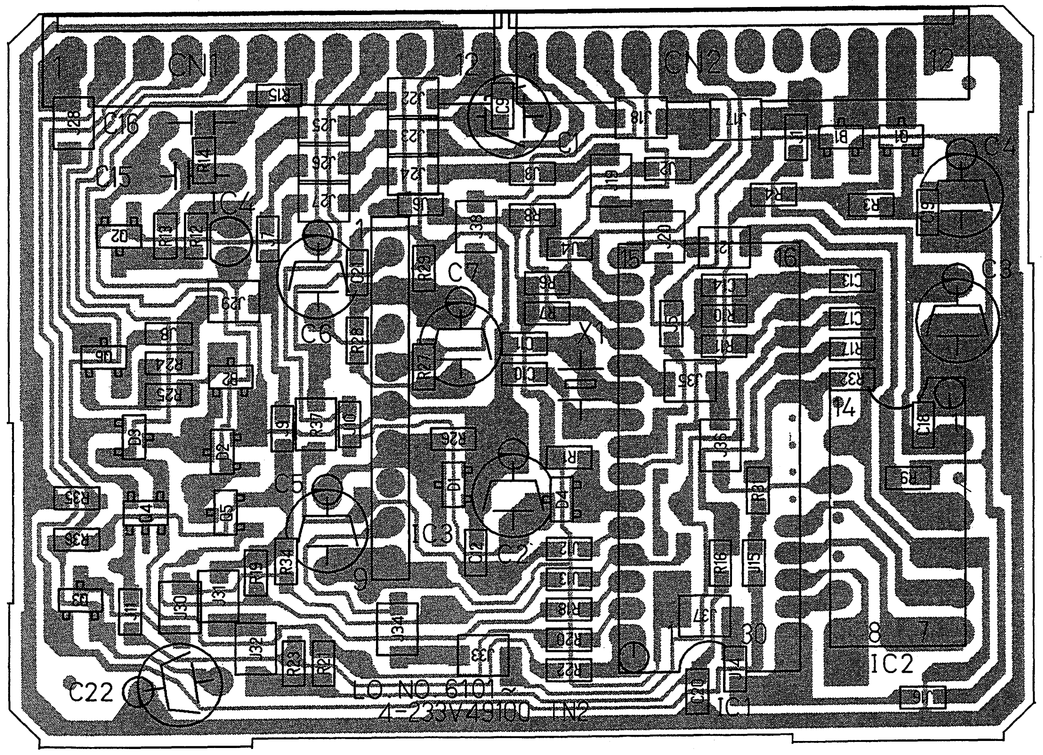
P.C.B. TN-2 TUNING CONTROL CIRCUIT & P.C.B. (143-0-233V-49221)


'N- 2
IC6103 LA7312 SYNC SEP.
IC6102 M58655P EAROM
IC6101 TMP47C231AN TUNING M.P.U.
IC6104 TD6358N PLL PRESCALER
B6101 (10K X 9)
Q6102 FMS1 SWITCH
Q6103 FMS1 SWITCH
Q6105 2SC3361 AMP
Q6101 2SA1362 SWITCH
IC6105 μPC574J or L5631
D6101 DSB015
D6102 DSB015
X6101
X6102
L6101 10μH
L6102 10μH
TU LOCAL IN
M B
AFT C
AFT(SB)
L B
H B
U B
T U
SD SIG
AUDIO MUTE
TO TN1
TO TUNER
TO TN1


CN1
CN2
CN3
IC1
IC2
IC4
IC5
TN-2
4-233V49200A
LOC.NO.6101-

P.C.B. TN-2 TUNING CONTROL CIRCUIT & P.C.B. (143-0-233V-49142)


TN-2
IC6103 LA7214 SYNC SEP.
TO VD-1 TUNER BLOCK
ALWAYS 5V
ALWAYS 12V
CN6080
ALWAYS 33V
G N D
ALWAYS -30V
TO PW-1 CN5102
CN6081
VIDEO OUT
S OUT
S IN
S CLK
AV.
MONO
TO TM-4 CN7402
IC6101 M50434-320SP
TUNING C.P.U.
IC6102 M58655P
Q6101 2SA1361 SWITCH
Q6105 2SA1179 SWITCH
Q6104 FMS1 SWITCH
B6102 2SC3395 SWITCH
Q6106 2SA1362 SWITCH
D6102 DSB015
D6103 DSB015
D6104 DSB015
B6101 2SC3395 SWITCH
IC6104 μPC574J or L5631 REG
Q6102 2SC3361 BUFFER
Q6103 2SK436 AFT SWITCH
SWD 12V
AFT C
AFT(OUT)
L B
H B
U B
T U
SD SIG
A.MUTE
TO VD-1 TUNER BLOCK
SWD 5V TO RF UNIT

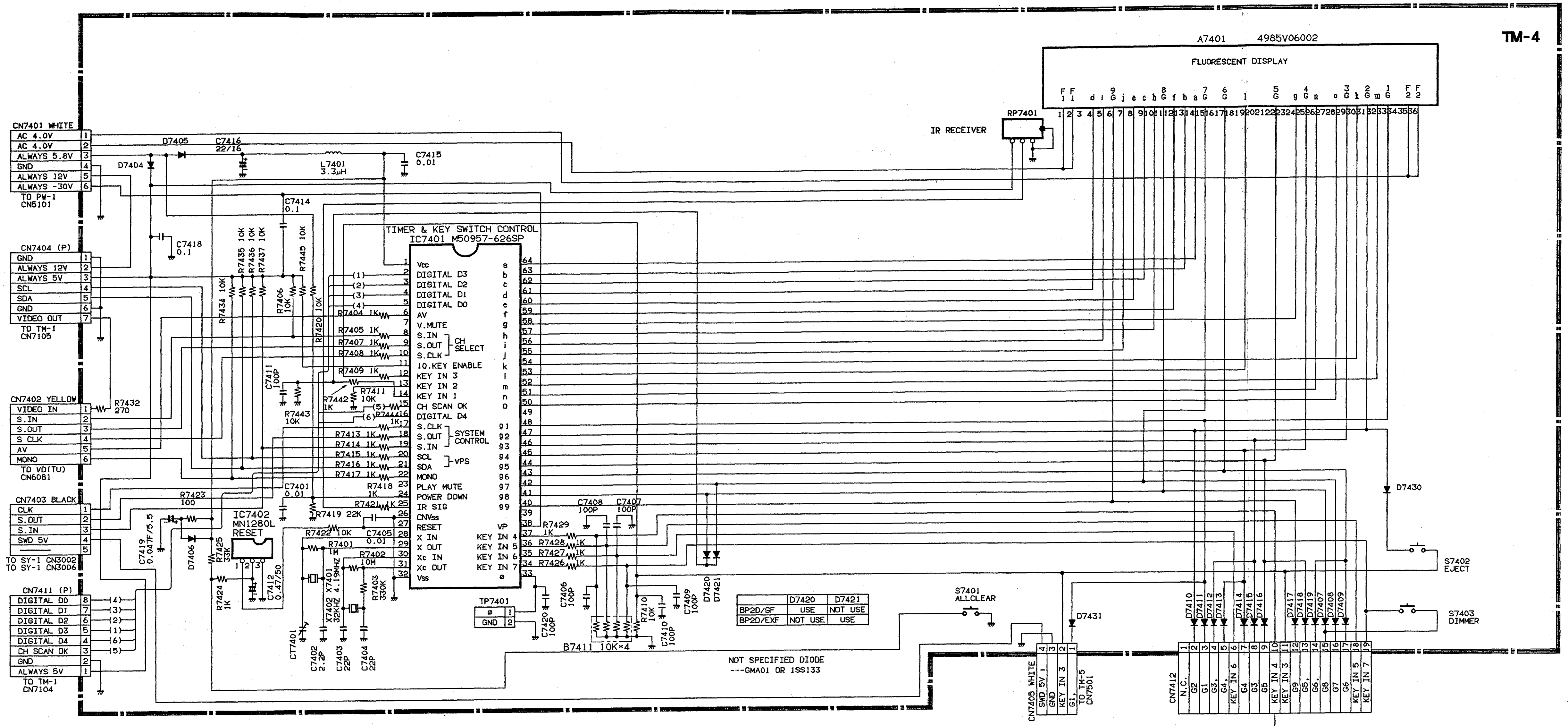

CN1
CN2
IC1
IC2
IC3
C22
LO. NO 6101
4-233V49100 TN2

Ⓜ
FVH-D40HV
FVH-D40S

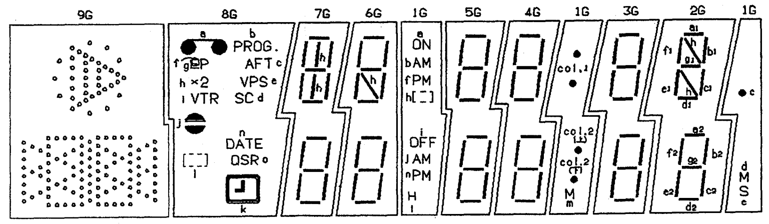
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

P.C.B. TM-4, 5 DISPLAY, TIMER, SWITCH & VR CIRCUIT
(West Germany TM-4 143-0-233V-65900) (Europe TM-4 143-0-233V-65921)
(TM-5 143-0-233V-66000)

Ⓝ
FVH-D40HV
FVH-D40S

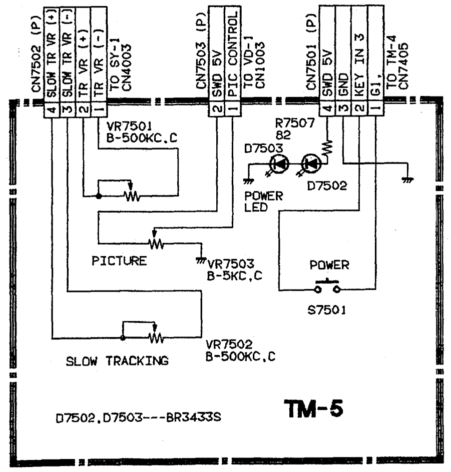

TM-4
A7401 4985V06002
FLUORESCENT DISPLAY
RP7401
IR RECEIVER
CN7401 WHITE
AC 4.0V
AC 4.0V
ALWAYS 5.8V
GND
ALWAYS 12V
ALWAYS -30V
TO PW-1 CN5101
D7404
D7405
C7416 22/16
L7401 3.3μH
C7415 0.01
C7414 0.1
C7418 0.1
CN7404 (P)
GND
ALWAYS 12V
ALWAYS 5V
SCL
SDA
GND
VIDEO OUT
TO TM-1 CN7105
R7434 10K
R7435 10K
R7436 10K
R7437 10K
R7445 10K
R7406 10K
R7420 10K
TIMER & KEY SWITCH CONTROL
IC7401 M50957-626SP
Vcc
DIGITAL D3
DIGITAL D2
DIGITAL D1
DIGITAL D0
AV
V.MUTE
S.IN
S.OUT
S.CLK
CH SELECT
10.KEY ENABLE
KEY IN 3
KEY IN 2
KEY IN 1
CH SCAN OK
DIGITAL D4
S.CLK
S.OUT
S.IN
SYSTEM CONTROL
SCL
SDA
VPS
MONO
PLAY MUTE
POWER DOWN
IR SIG
RESET
CNVss
X IN
X OUT
Xc IN
Xc OUT
Vss
VP
KEY IN 4
KEY IN 5
KEY IN 6
KEY IN 7
R7404 1K
R7405 1K
R7407 1K
R7408 1K
R7409 1K
R7411 10K
R7442 1K
R7443 10K
R7444 1K
R7413 1K
R7414 1K
R7415 1K
R7416 1K
R7417 1K
R7418 1K
R7421 1K
R7419 22K
R7422 10K
R7401 1M
R7402 10M
R7403 330K
C7405 0.01
C7401 0.01
C7411 100P
CN7402 YELLOW
VIDEO IN
S.IN
S.OUT
S CLK
AV
MONO
TO VD(TU) CN6081
R7432 270
CN7403 BLACK
CLK
S.OUT
S.IN
SWD 5V
TO SY-1 CN3002
TO SY-1 CN3006
R7423 100
IC7402 MN1280L RESET
C7419 0.047F/5.5
D7406
R7425 33K
R7424 1K
C7412 0.47/50
X7401 32KHZ
X7402 4.19MHZ
CT7401
C7402 2.2P
C7403 22P
C7404 22P
CN7411 (P)
DIGITAL D0
DIGITAL D1
DIGITAL D2
DIGITAL D3
DIGITAL D4
CH SCAN OK
GND
ALWAYS 5V
TO TM-1 CN7104
C7408 100P
C7407 100P
R7429 1K
R7428 1K
R7427 1K
R7426 1K
TP7401
GND
C7420 100P
C7406 100P
C7409 100P
C7410 100P
R7410 10K
B7411 10K×4
D7420
D7421
BP2D/GF
BP2D/EXF
USE
NOT USE
NOT SPECIFIED DIODE
---GMA01 OR 1SS133
S7401 ALLCLEAR
D7431
D7430
S7402 EJECT
S7403 DIMMER
D7410 D7411 D7412 D7413 D7414 D7415 D7416 D7417 D7418 D7419 D7407 D7408 D7409
CN7405 WHITE
SWD 5V
GND
KEY IN 3
G1
TO TM-5 CN7501
CN7412
N.C.
G2
G1
G3
G4
KEY IN 6
G4
G5
G6
G8
KEY IN 4
KEY IN 3
G9
G5
G6
G7
G6
KEY IN 5
KEY IN 7

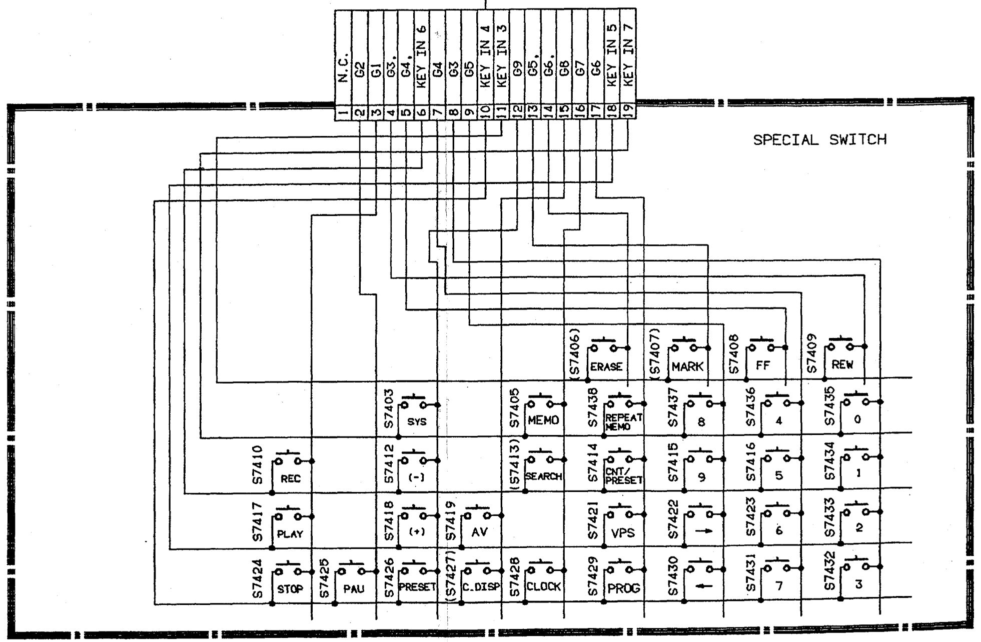
GRID ASSIGNMENT


9G
8G
7G
6G
1G
5G
4G
1G
3G
2G
1G
PROG.
AFT
VPS
SC
EP
×2
VTR
DATE
OSR
ON
AM
PM
OFF
col.1
col.2
M
S

ANODE CONNECTION

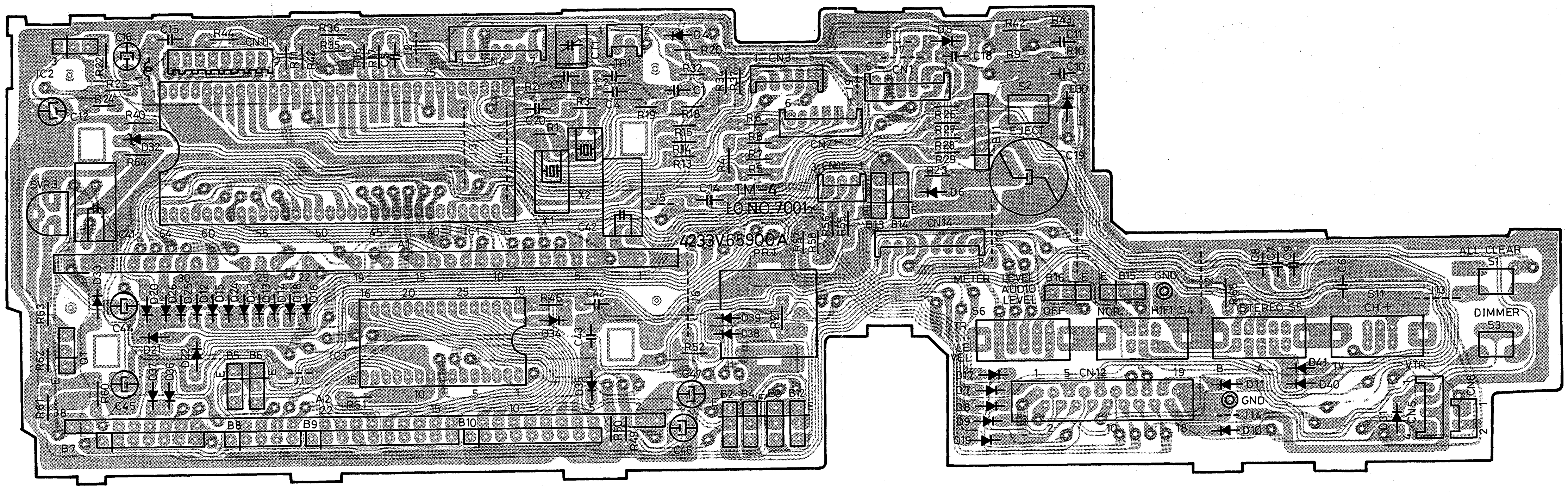
	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	B	●	a1	a1	a1	a1	a1	a1	ON
b	A	PROG.	b1	b1	b1	b1	b1	b1	AM(1)
c	–	AFT	c1	c1	c1	c1	c1	c1	DP
d	–	SC	d1	d1	d1	d1	d1	d1	M(1)
e	–	VPS	e1	e1	e1	e1	e1	e1	S
f	C	EP	f1	f1	f1	f1	f1	f1	PM(1)
g	D	EP	g1	g1	g1	g1	g1	g1	col.1
h	–	×2	/	\	-	-	-	\	⁙
i	–	VTR	a2	a2	a2	a2	a2	a2	OFF
j	E	⊖	b2	b2	b2	b2	b2	b2	AM(2)
k	I	◘	c2	c2	c2	c2	c2	c2	col.2(F)
l	H	⁙	d2	d2	d2	d2	d2	d2	H
m	J	–	e2	e2	e2	e2	e2	e2	M(2)
n	F	DATE	f2	f2	f2	f2	f2	f2	PM(2)
o	G	OSR	g2	g2	g2	g2	g2	g2	col.2(L)


CN7502 (P)
SLOW TR VR (+)
SLOW TR VR (-)
VTR VR (+)
VTR VR
TO SY-1 CN4003
CN7503 (P)
SWD 5V
PIC CONTROL
TO VD-1 CN1003
CN7501 (P)
SWD 5V
GND
KEY IN 3
G1
TO TM-4 CN7405
VR7501 B-500KC,C
R7507 82
D7503
D7502
POWER LED
PICTURE
VR7503 B-5KC,C
POWER
S7501
SLOW TRACKING
VR7502 B-500KC,C
D7502,D7503---BR3433S
TM-5

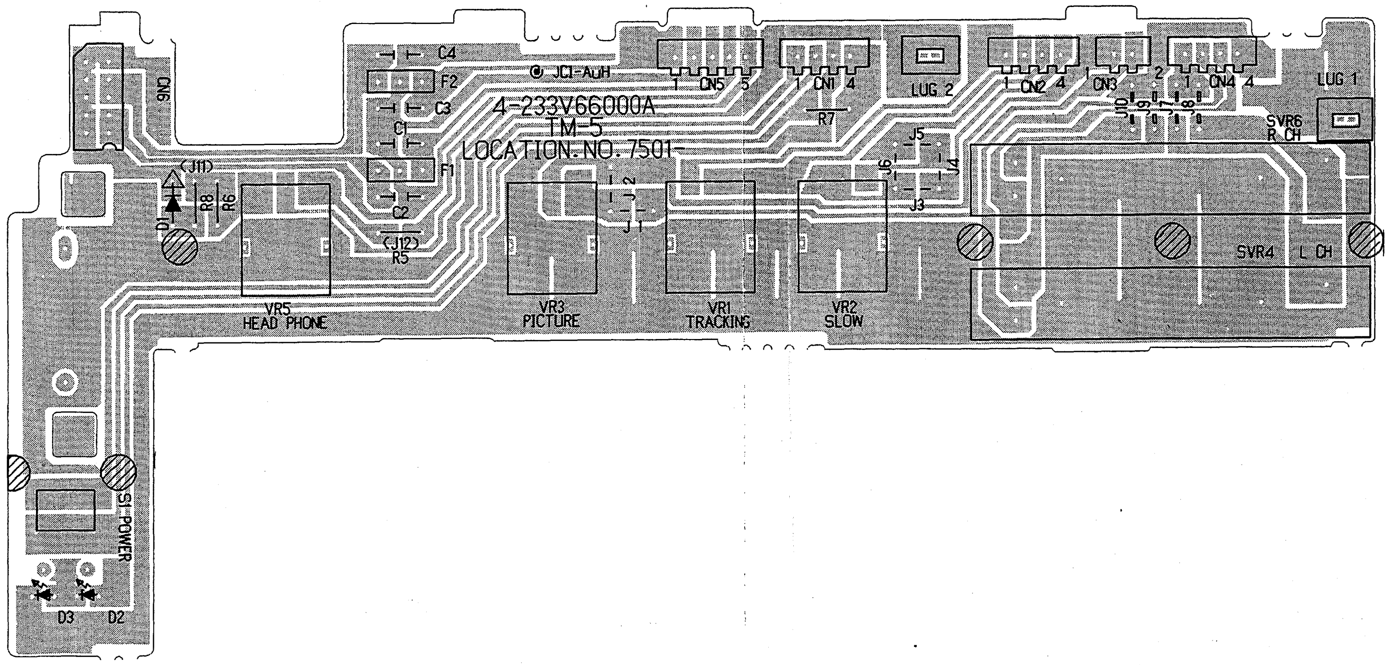

N.C.
G2
G1
G3
G4
KEY IN 6
G4
G5
G6
G8
KEY IN 4
KEY IN 3
G9
G5
G6
G7
G6
KEY IN 5
KEY IN 7
SPECIAL SWITCH
(S7406) ERASE
(S7407) MARK
S7408 FF
S7409 REW
S7403 SYS
S7405 MEMO
S7438 REPEAT MEMO
S7437 8
S7436 4
S7435 0
S7410 REC
S7412 (-)
(S7413) SEARCH
S7414 CNT/PRESET
S7415 9
S7416 5
S7434 1
S7417 PLAY
S7418 (+)
S7419 AV
S7421 VPS
S7422 →
S7423 6
S7433 2
S7424 STOP
S7425 PAU
S7426 PRESET
(S7427) C.DISP
S7428 CLOCK
S7429 PROG
S7430 ←
S7431 7
S7432 3

K J I H G F E D C B A
1 2 3 4 5 6 7 8 9 0 11 12 13 14 15 16 17

P.C.B. TM-4 DISPLAY, TIMER & SWITCH (West Germany 143-0-233V-65900)
(Europe 143-0-233V-65921)

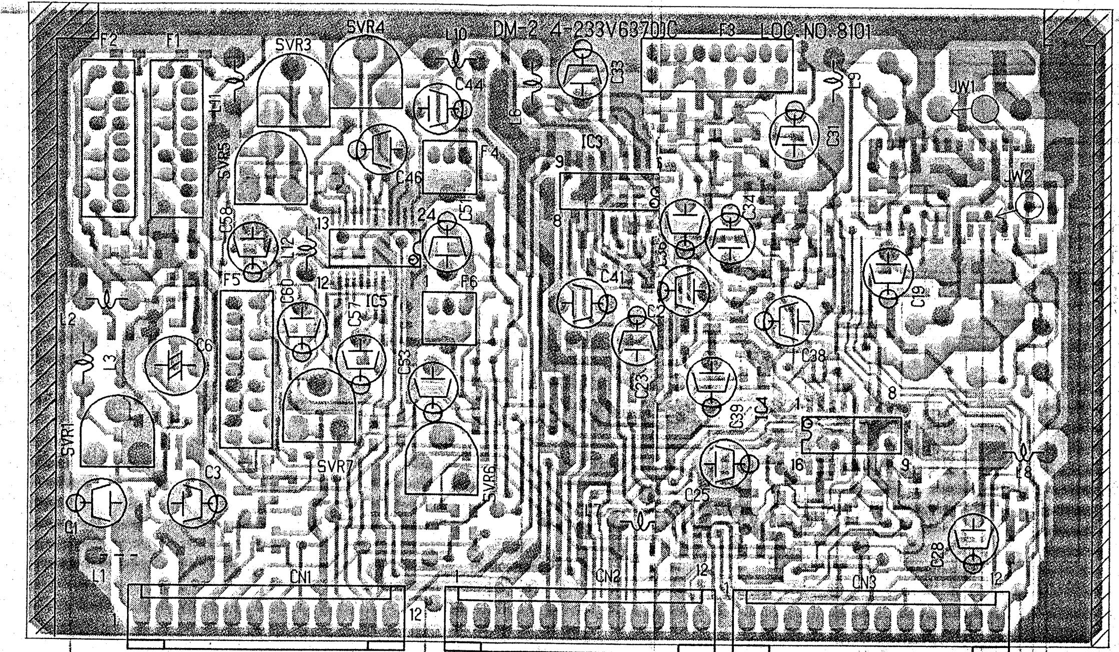

TM-4
LO.NO.7001
4233V65900A
IC1
IC2
IC3
SVR3
X1
X2
CN1
CN2
CN3
CN4
CN11
CN12
CN14
CN15
EJECT
S2
METER
LEVEL
AUDIO LEVEL
OFF
NOR
HIFI S4
STEREO S5
GND
S6
S11
CH +
ALL CLEAR
S1
DIMMER
S3
TV
VTR
CN5
CN6
B7
B8
B9
B10

P.C.B. TM-5 SWITCH & VR (143-0-233V-66000)

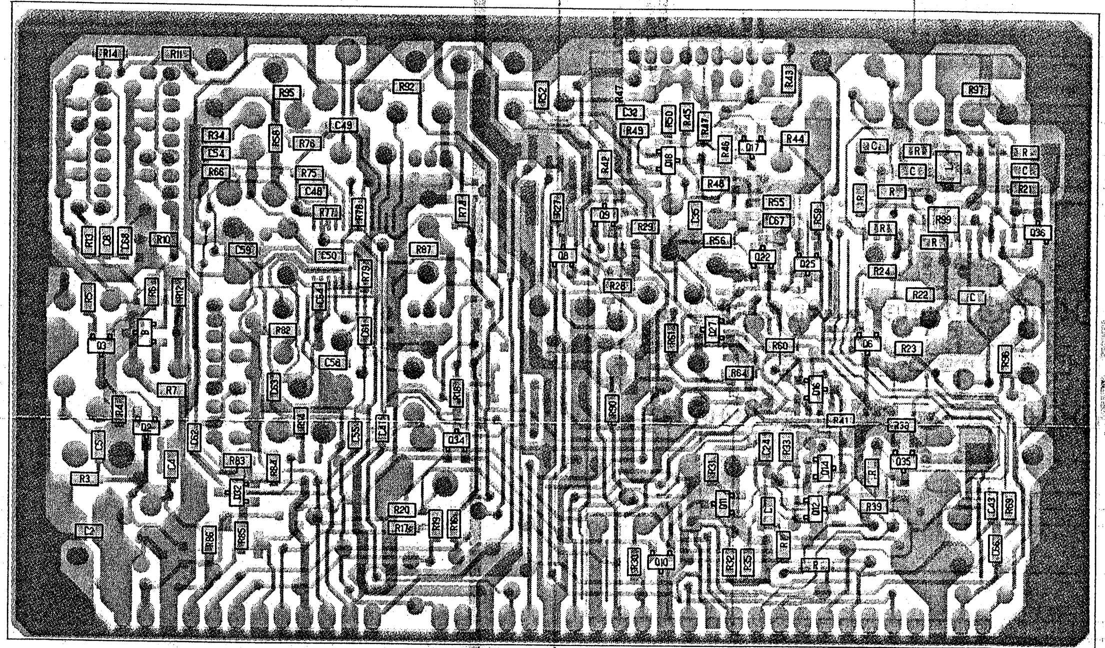

4-233V66000A
TM-5
LOCATION.NO.7501
JC1-AuH
CN1
CN2
CN3
CN4
CN5
CN6
LUG 1
LUG 2
SVR6
R CH
SVR4
L CH
VR5
HEAD PHONE
VR3
PICTURE
VR1
TRACKING
VR2
SLOW
S1 POWER
D3
D2

16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

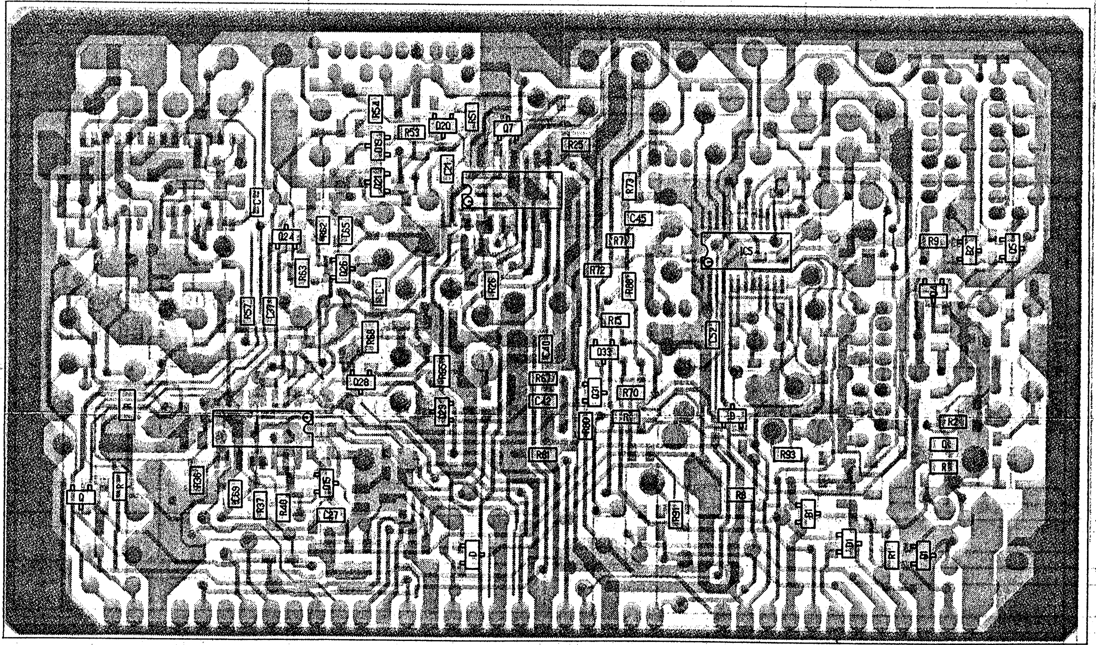
P.C.B. DM-2 REC/PB VIDEO SIGNAL PROCESS CIRCUIT & P.C.B. (143-0-233V-63700)


DM-2 4-233V637010
LOC.NO.8101
SVR1
SVR2
SVR3
SVR4
SVR5
SVR6
SVR7
CN1
CN2
CN3
IC3
IC5
12
1

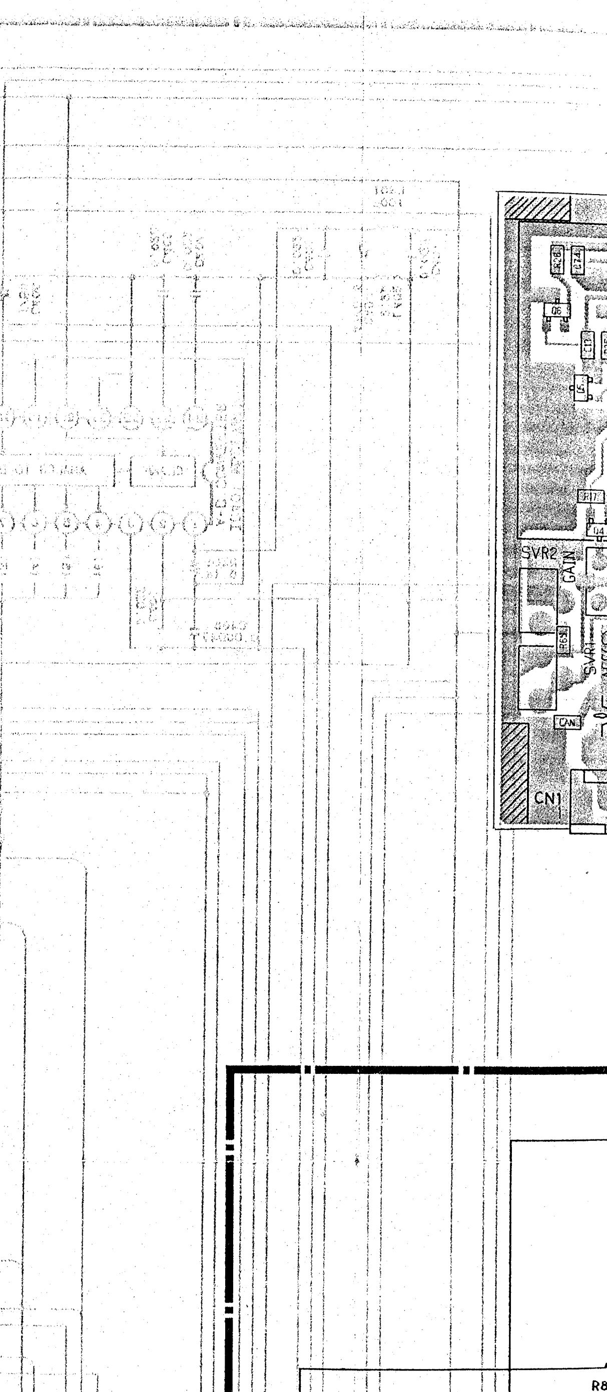
SIDE A

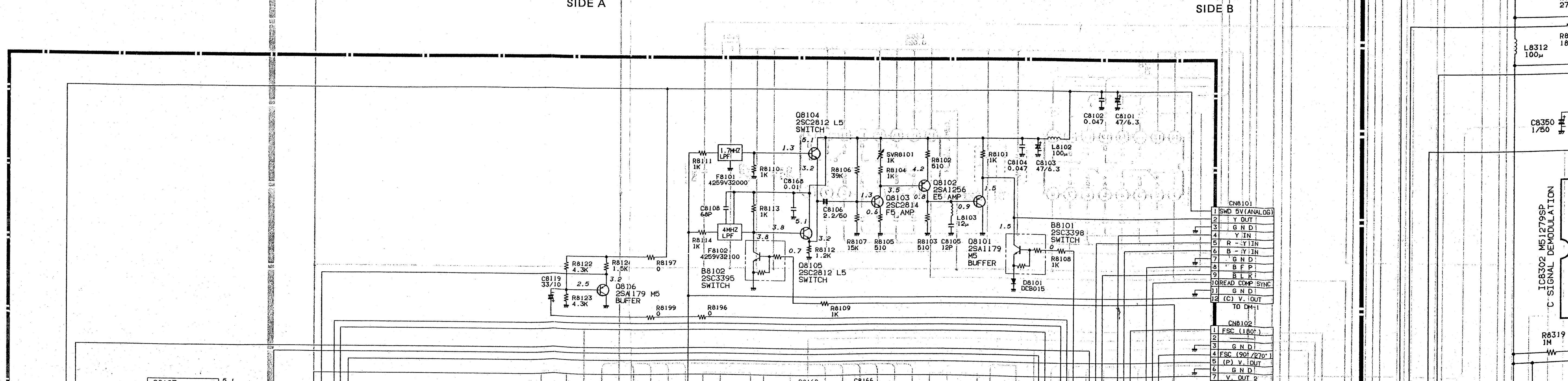


SIDE A

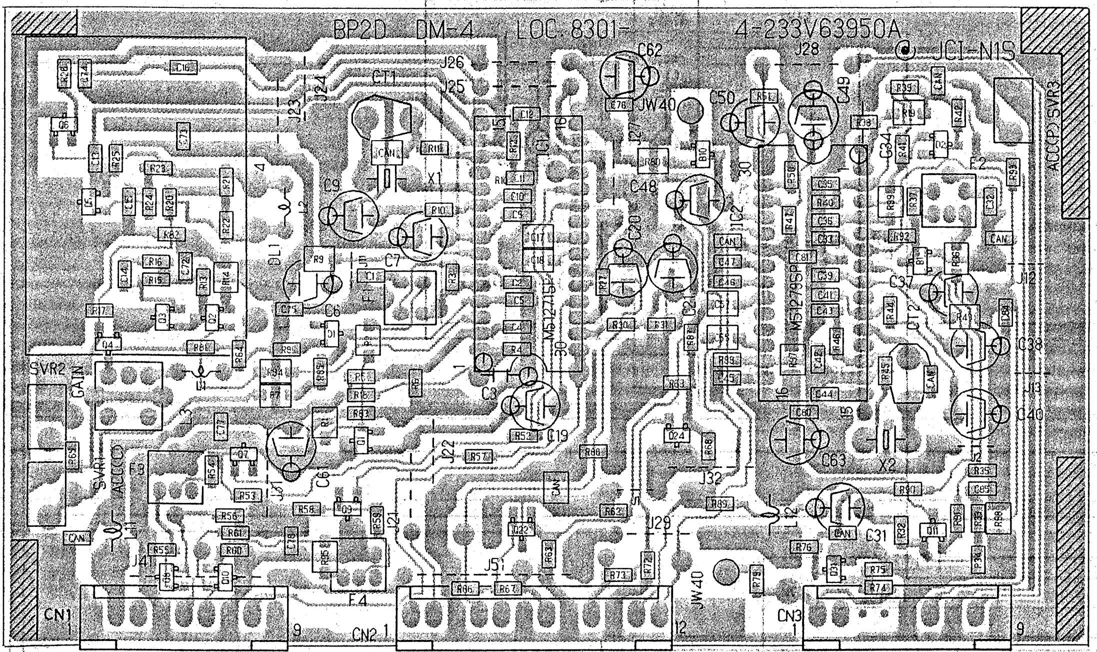


SIDE B

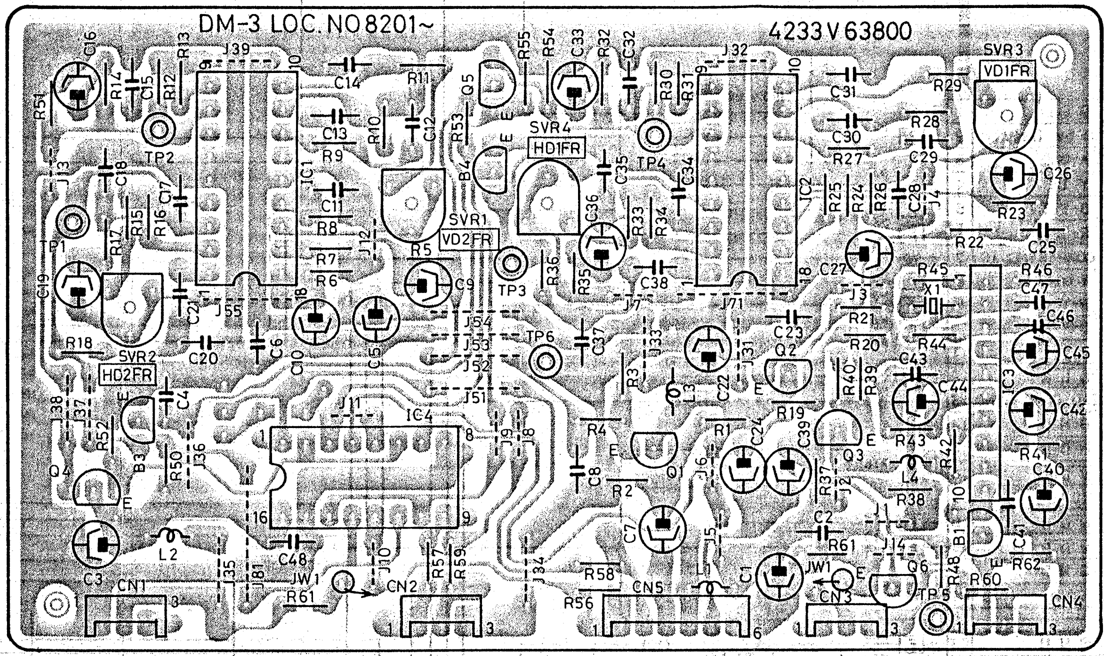

SVR2
GAIN
CN1


Q8104
2SC2812 L5
SWITCH
1.7MHZ
LPF
R8111
1K
F8101
4259V32000
R8110
1K
C8168
0.01
C8108
68P
R8113
1K
4MHZ
LPF
R8114
1K
F8102
4259V32100
B8102
2SC3395
SWITCH
Q8105
2SC2812 L5
SWITCH
R8112
1.2K
R8106
39K
R8107
15K
SVR8101
1K
R8104
1K
Q8103
2SC2814
F5 AMP
R8105
510
C8106
2.2/50
R8102
510
Q8102
2SA1256
E5 AMP
R8103
510
L8103
12µ
C8105
12P
R8101
1K
Q8101
2SA1179
M5
BUFFER
C8104
0.047
C8103
47/6.3
L8102
100µ
C8102
0.047
C8101
47/6.3
B8101
2SC3398
SWITCH
R8108
1K
D8101
DCB015
R8109
1K
R8122
4.3K
R8124
1.5K
R8197
0
C8119
33/10
R8123
4.3K
Q8106
2SA1179 M5
BUFFER
R8199
0
R8196
0
5.1
1.3
3.2
3.5
4.2
0.8
0.6
0.9
1.5
3.8
0.7
2.5
0
CN8101
1 SWD 5V(ANALOG)
2 Y OUT
3 GND
4 Y IN
5 R - Y IN
6 B - Y IN
7 GND
8 BFP
9 BLK
10 READ COMP SYNC
11 GND
12 (C) V. OUT
TO DM-1
CN8102
1 FSC (180°)
2
3 GND
4 FSC (90°/270°)
5 (P) V. OUT
6 GND
7 V. OUT 2
L8312
100µ
C8350
1/50
IC8302 M51279SP
C SIGNAL DEMODULATION
R8319
1M

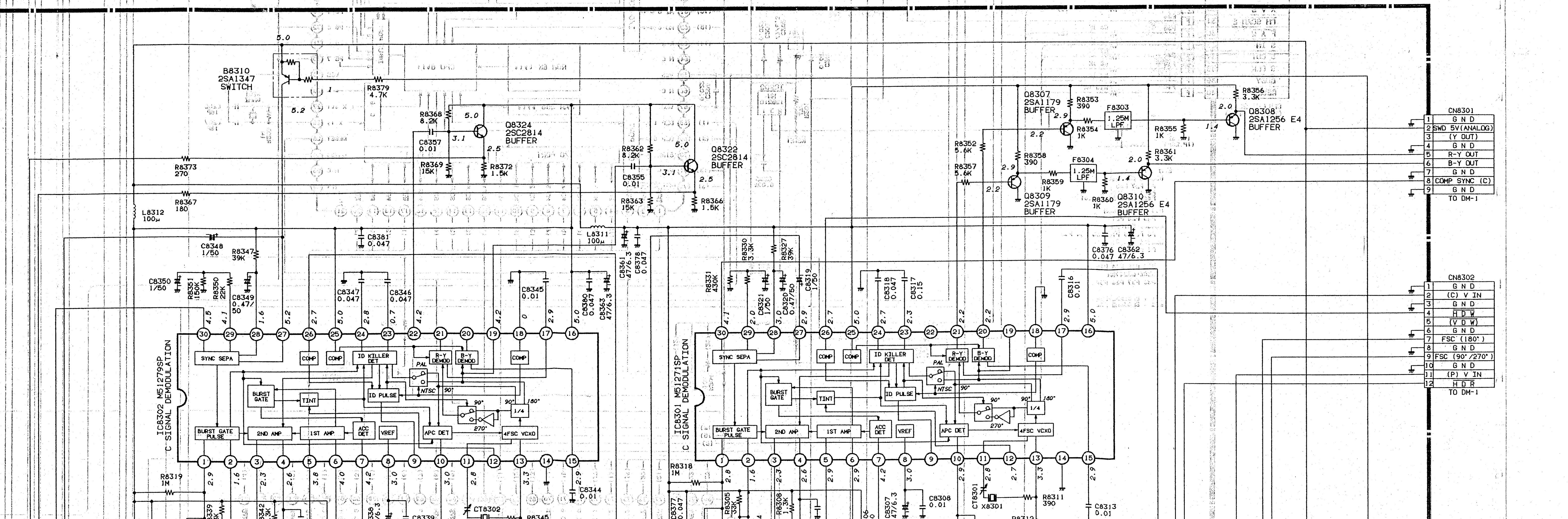
P.C.B. DM-4 Y/C SIGNAL PROCESS (143-0-233V-63950)


BP2D DM-4 LOC.8301~ 4-233V63950A
JCI-N1S
SVR2
GAIN
ACC(P) SVR3
CN1
CN2
CN3
F4
X1
X2
JW40

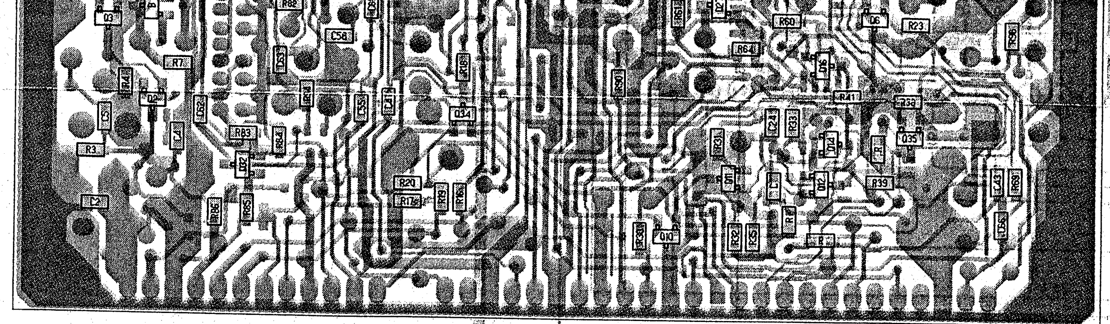
P.C.B. DM-3 SYNC. SEPARATOR (143-0-233V-63800)

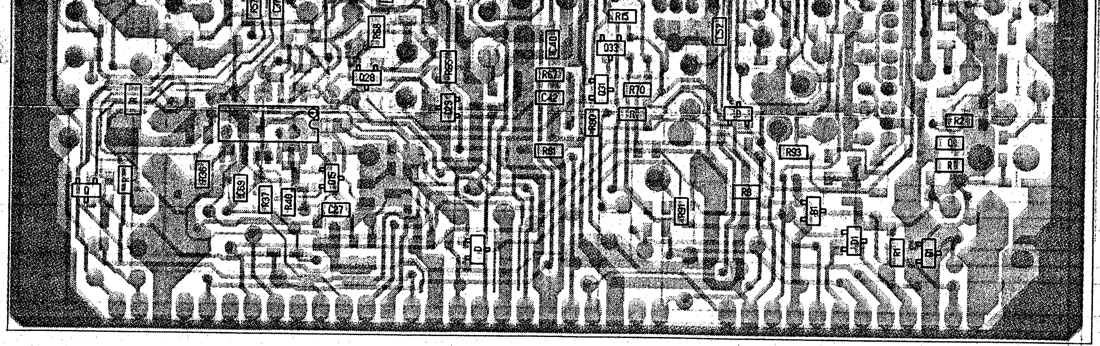

DM-3 LOC.NO8201~
4233V63800
SVR1 VD2FR
SVR2 HD2FR
SVR3 VD1FR
SVR4 HD1FR
IC1
IC2
IC3
IC4
TP2
TP3
TP4
TP6
CN1
CN2
CN3
CN4
CN5
X1
L2

P.C.B. DM-4 Y/C SIGNAL PROCESS CIRCUIT (143-0-233V-63950)


B8310
2SA1347
SWITCH
Q8324
2SC2814
BUFFER
Q8322
2SC2814
BUFFER
Q8307
2SA1179
BUFFER
Q8308
2SA1256 E4
BUFFER
Q8309
2SA1179
BUFFER
Q8310
2SA1256 E4
BUFFER
F8303
1.25M
LPF
F8304
1.25M
LPF
R8379 4.7K
R8368 8.2K
R8369 15K
R8372 1.5K
C8357 0.01
R8362 8.2K
R8363 15K
R8366 1.5K
C8355 0.01
R8373 270
R8367 180
L8312 100μ
L8311 100μ
C8348 1/50
R8347 39K
C8381 0.047
C8350 1/50
R8351 150K
R8350 22K
C8349 0.47/50
C8347 0.047
C8346 0.047
C8345 0.01
C8380 0.047
C8363 47/6.3
C8361 47/6.3
C8378 0.047
C8376 0.047
C8362 47/6.3
R8353 390
R8354 1K
R8355 1K
R8356 3.3K
R8352 5.6K
R8357 5.6K
R8358 390
R8359 1K
R8360 1K
R8361 3.3K
R8331 430K
R8330 3.3K
R8327 39K
C8321 1/50
C8320 0.47/50
C8319 1/50
C8318 0.047
C8317 0.15
C8316 0.01
IC8302 M51279SP
C SIGNAL DEMODULATION
IC8301 M51271SP
C SIGNAL DEMODULATION
SYNC SEPA
COMP
ID KILLER DET
R-Y DEMOD
B-Y DEMOD
PAL
NTSC
BURST GATE
TINT
ID PULSE
BURST GATE PULSE
2ND AMP
1ST AMP
ACC DET
VREF
APC DET
4FSC VCXO
1/4
90°
180°
270°
R8319 1M
R8318 1M
C8344 0.01
CT8302
R8345
C8339
C8377 0.047
R8305 33K
R8308 3.3K
C8307 47/6.3
C8308 0.01
CT8301
X8301
R8311 390
C8313 0.01
R8312
CN8301
1 GND
2 SWD 5V(ANALOG)
3 (Y OUT)
4 GND
5 R-Y OUT
6 B-Y OUT
7 GND
8 COMP SYNC (C)
9 GND
TO DM-1
CN8302
1 GND
2 (C) V IN
3 GND
4 HDW
5 (VDW)
6 GND
7 FSC (180°)
8 GND
9 FSC (90°/270°)
10 GND
11 (P) V IN
12 HDR
TO DM-1

K





J

I

H

G

F

EVH-D40HV
EVH-D40S

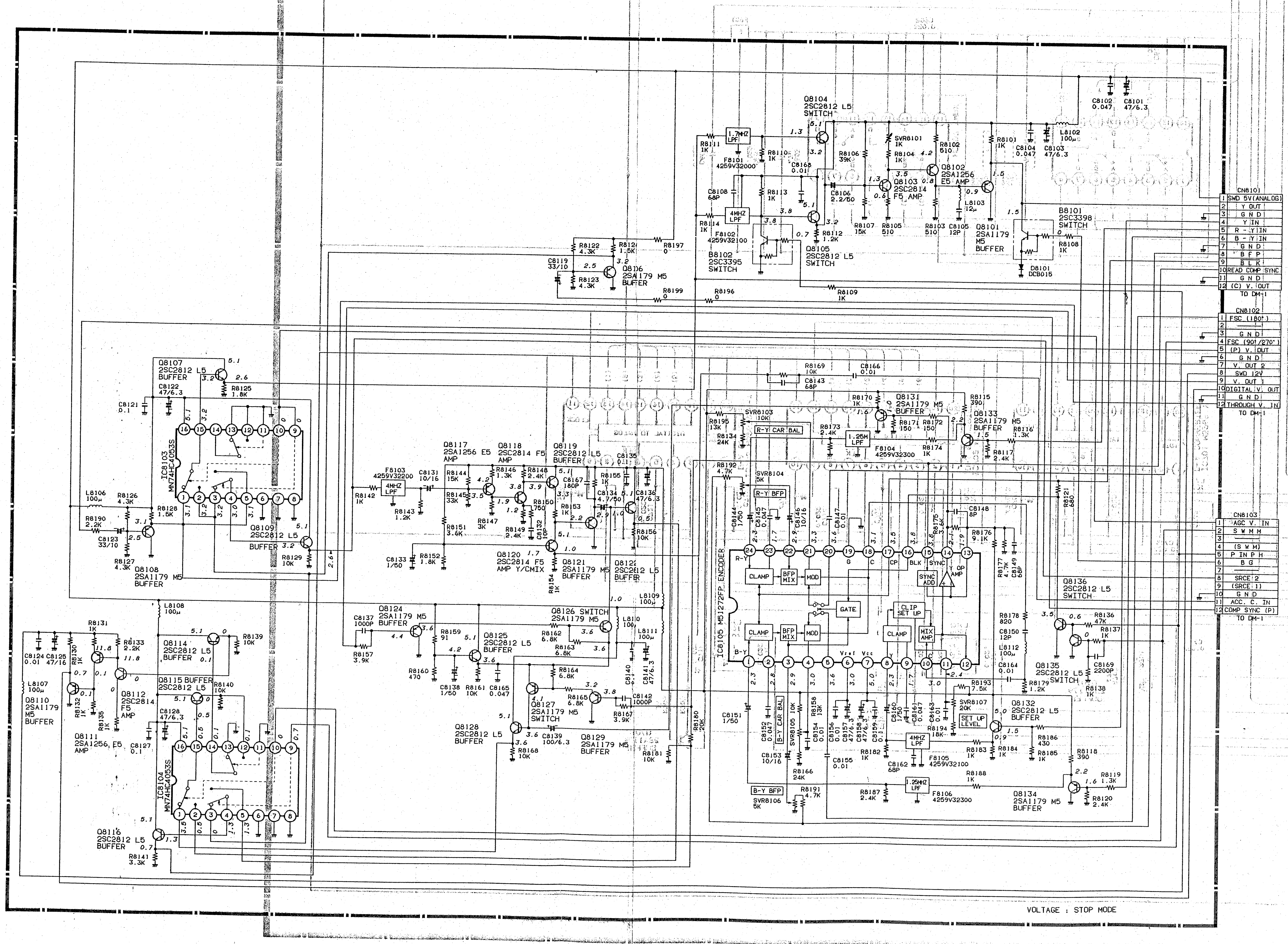
E

D

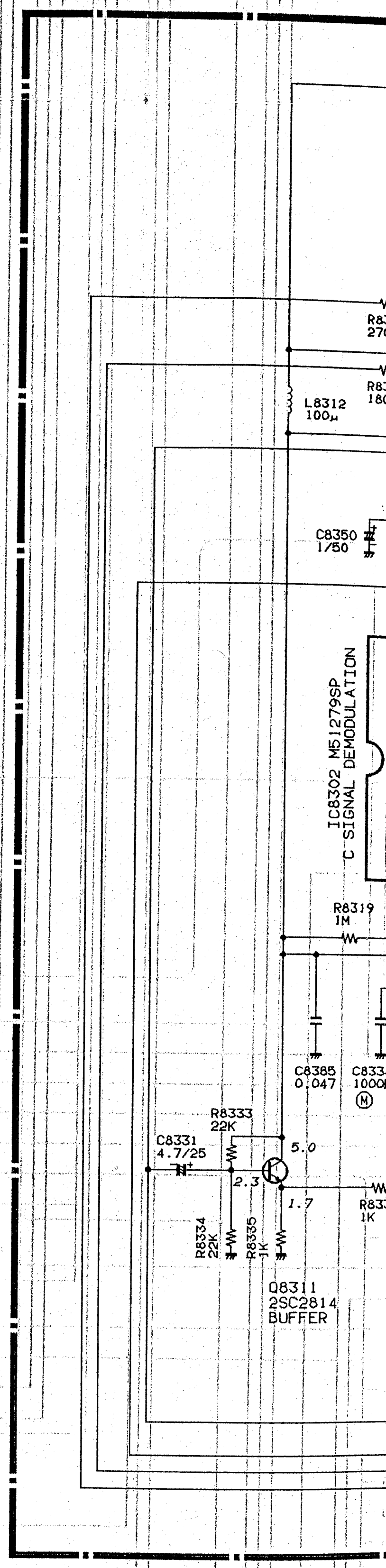
C

B

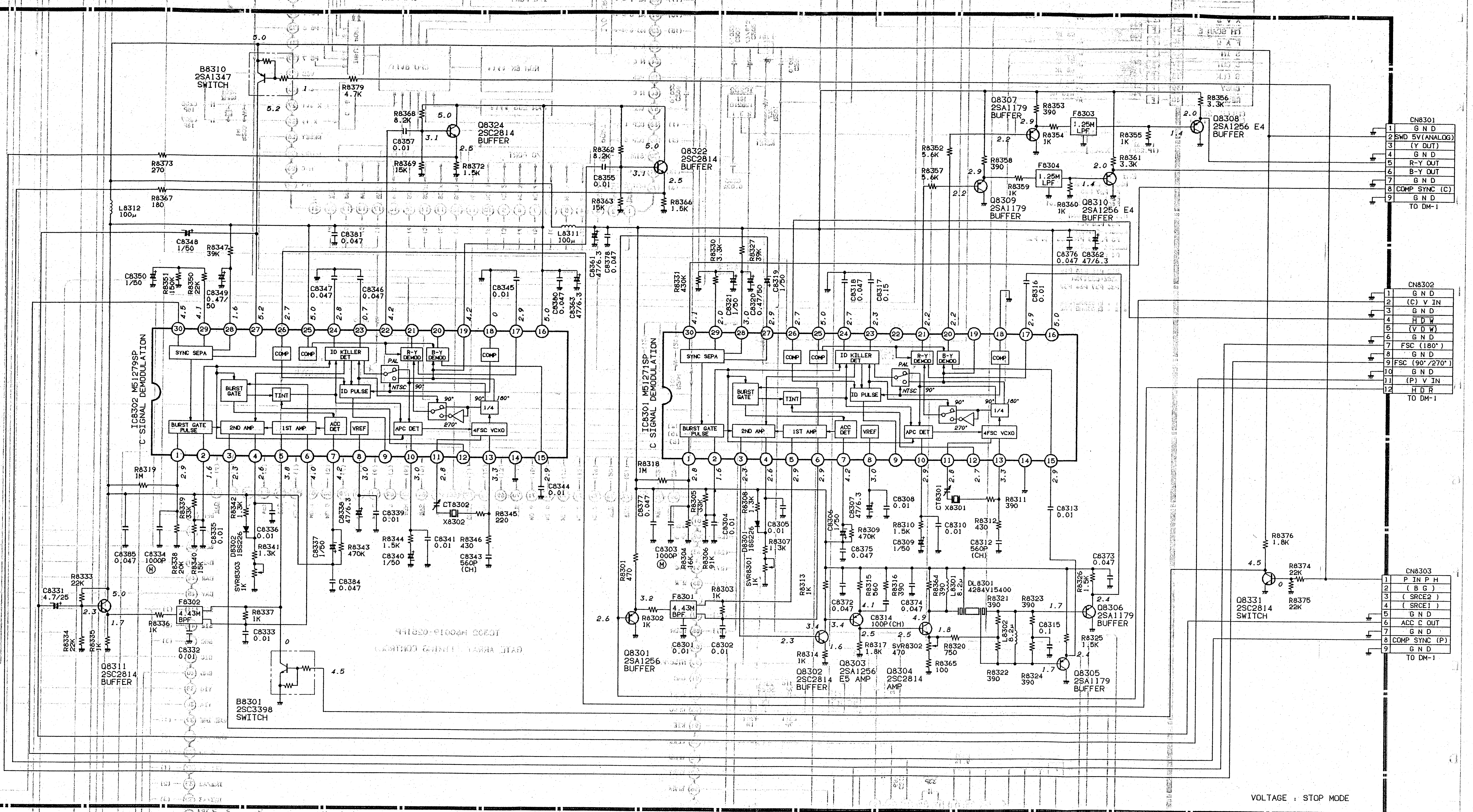
A


Q8104
2SC2812 L5
SWITCH
F8101
4259V32000
1.7MHZ LPF
4MHZ LPF
F8102
4259V32100
B8102
2SC3395
SWITCH
Q8105
2SC2812 L5
SWITCH
SVR8101
1K
Q8103
2SC2814
F5 AMP
Q8102
2SA1256
E5 AMP
Q8101
2SA1179
M5
BUFFER
B8101
2SC3398
SWITCH
D8101
DCB015
L8102
100µ
C8102
0.047
C8101
47/6.3
Q8106
2SA1179 M5
BUFFER
CN8101
1 SWD 5V (ANALOG)
2 Y OUT
3 G N D
4 Y IN
5 R - Y IN
6 B - Y IN
7 G N D
8 B F P
9 B L K
10 READ COMP SYNC
11 G N D
12 (C) V. OUT
TO DM-1
CN8102
1 FSC (180°)
2
3 G N D
4 FSC (90°/270°)
5 (P) V. OUT
6 G N D
7 V. OUT 2
8 SWD 12V
9 V. OUT 1
10 DIGITAL V. OUT
11 G N D
12 THROUGH V. IN
TO DM-1
CN8103
1 AGC V. IN
2 S W M M
3 (S W M)
4 P I N P H
5 B G
6
7
8 SRCE 2
9 (SRCE 1)
10 G N D
11 ACC. C. IN
12 COMP SYNC (P)
TO DM-1
Q8107
2SC2812 L5
BUFFER
IC8103
MN74HC4053S
Q8109
2SC2812 L5
BUFFER
Q8108
2SA1179 M5
BUFFER
L8106
100µ
F8103
4259V32200
4MHZ LPF
Q8117
2SA1256 E5
AMP
Q8118
2SC2814 F5
AMP
Q8119
2SC2812 L5
BUFFER
Q8120
2SC2814 F5
AMP Y/CMIX
Q8121
2SA1179 M5
BUFFER
Q8122
2SC2812 L5
BUFFER
L8109
100µ
Q8124
2SA1179 M5
BUFFER
Q8125
2SC2812 L5
BUFFER
Q8126 SWITCH
2SA1179 M5
Q8127
2SA1179 M5
SWITCH
Q8128
2SC2812 L5
BUFFER
Q8129
2SA1179 M5
BUFFER
L8110
100
L8111
100µ
L8108
100µ
Q8114
2SC2812 L5
BUFFER
Q8112
2SC2814
F5
AMP
Q8110
2SA1179
M5
BUFFER
L8107
100µ
Q8115 BUFFER
2SC2812 L5
Q8111
2SA1256 E5
AMP
IC8104
MN74HC4053S
Q8116
2SC2812 L5
BUFFER
IC8105 M51272FP ENCODER
SVR8103
10K
R-Y CAR BAL
SVR8104
5K
R-Y BFP
Q8131
2SA1179 M5
BUFFER
1.25M LPF
F8104
4259V32300
Q8133
2SA1179 M5
BUFFER
CLAMP
BFP MIX
MOD
GATE
SYNC ADD
OP AMP
CLIP SET UP
MIX AMP
Vref
Vcc
B-Y CAR BAL
SVR8105
SVR8107
20K
SET UP LEVEL
4MHZ LPF
F8105
4259V32100
1.25MHZ LPF
F8106
4259V32300
B-Y BFP
SVR8106
5K
Q8136
2SC2812 L5
SWITCH
Q8135
2SC2812 L5
SWITCH
Q8132
2SC2812 L5
BUFFER
Q8134
2SA1179 M5
BUFFER
L8112
100µ

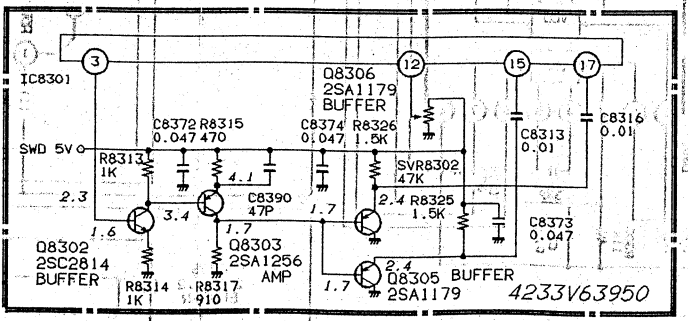
VOLTAGE : STOP MODE


L8312
100µ
C8350
1/50
IC8302 M51279SP
C SIGNAL DEMODULATION
R8319
1M
C8385
0.047
C8331
4.7/25
R8333
22K
R8334
22K
R8335
1K
Q8311
2SC2814
BUFFER

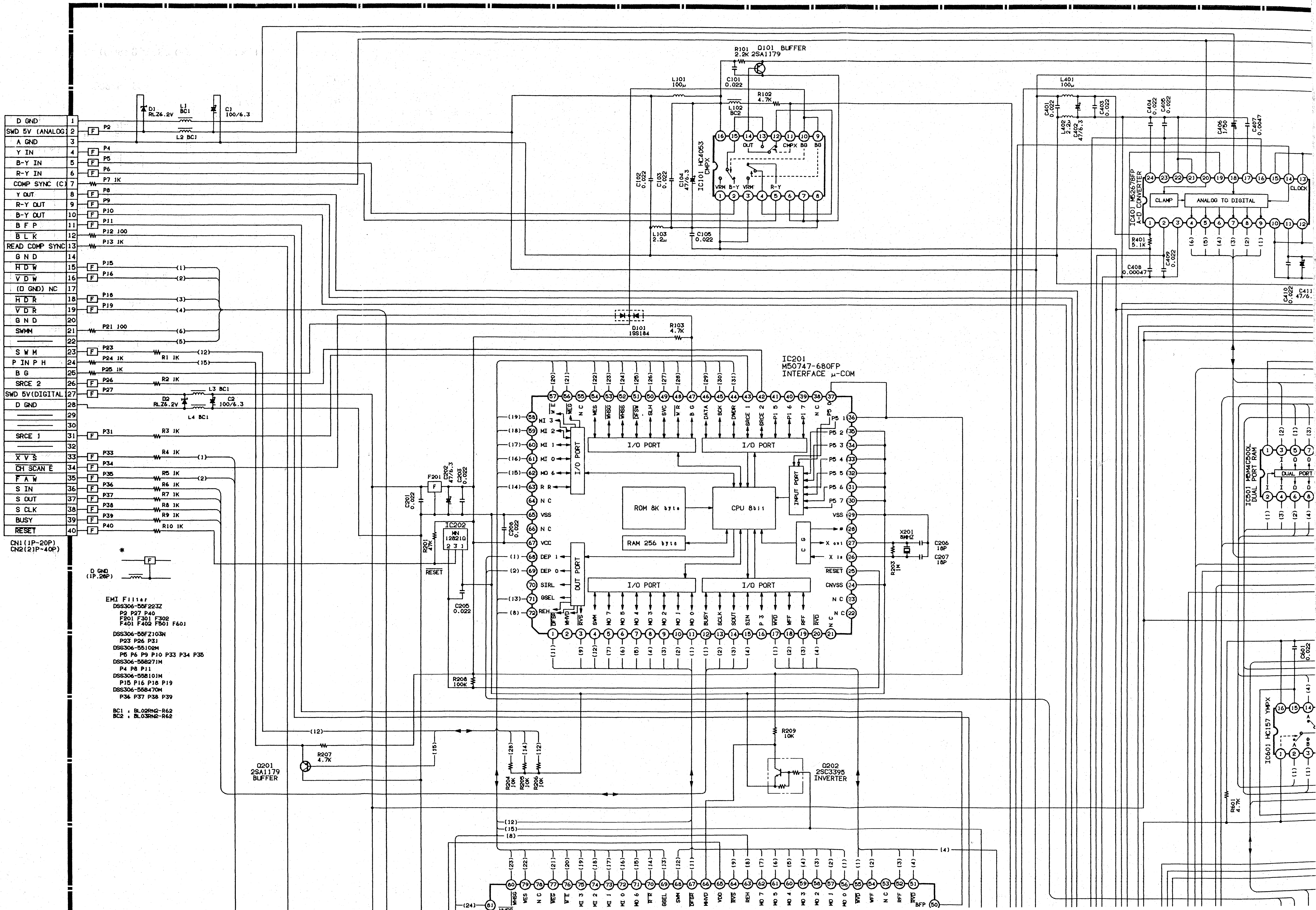
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17


IC8302 M51279SP
C SIGNAL DEMODULATION
IC8301 M51271SP
C SIGNAL DEMODULATION
SYNC SEPA
COMP
ID KILLER DET
R-Y DEMOD
B-Y DEMOD
PAL
NTSC
BURST GATE
TINT
ID PULSE
90°
180°
270°
1/4
BURST GATE PULSE
2ND AMP
1ST AMP
ACC DET
VREF
APC DET
4FSC VCXO
B8310
2SA1347
SWITCH
Q8324
2SC2814
BUFFER
Q8322
2SC2814
BUFFER
Q8311
2SC2814
BUFFER
F8302
4.43M BPF
B8301
2SC3398
SWITCH
Q8307
2SA1179
BUFFER
Q8308
2SA1256 E4
BUFFER
F8303
1.25M LPF
F8304
1.25M LPF
Q8309
2SA1179
BUFFER
Q8310
2SA1256 E4
BUFFER
Q8301
2SA1256
BUFFER
F8301
4.43M BPF
Q8302
2SC2814
BUFFER
Q8303
2SA1256
E5 AMP
Q8304
2SC2814
AMP
Q8306
2SA1179
BUFFER
Q8305
2SA1179
BUFFER
DL8301
4284V15400
Q8331
2SC2814
SWITCH
CT8302
X8302
CT8301
X8301
SVR8303 1K
SVR8301 1K
SVR8302 470
D8302 1SS226
D8301 1SS226
L8312 100μ
L8311 100μ
L8301 8.2μ
L8302 8.2μ
R8379 4.7K
R8368 8.2K
R8369 15K
R8372 1.5K
R8373 270
R8367 180
R8362 8.2K
R8363 15K
R8366 1.5K
R8347 39K
R8351 150K
R8350 22K
R8319 1M
R8339 33K
R8338 20K
R8340 15K
R8342 1.3K
R8341 1.3K
R8337 1K
R8336 1K
R8333 22K
R8334 22K
R8335 1K
R8343 470K
R8344 1.5K
R8346 430
R8345 220
R8353 390
R8354 1K
R8352 5.6K
R8357 5.6K
R8358 390
R8359 1K
R8360 1K
R8355 1K
R8356 3.3K
R8361 3.3K
R8330 3.3K
R8327 39K
R8331 430K
R8318 1M
R8305 33K
R8304 16K
R8306 91K
R8308 1.3K
R8307 1.3K
R8301 470
R8302 1K
R8303 1K
R8309 470K
R8310 1.5K
R8311 390
R8312 430
R8313 1K
R8314 1K
R8315 560
R8316 390
R8317 1.8K
R8364 390
R8365 100
R8320 750
R8321 390
R8322 390
R8323 390
R8324 390
R8325 1.5K
R8326 1.5K
R8376 1.8K
R8374 22K
R8375 22K
C8357 0.01
C8355 0.01
C8381 0.047
C8348 1/50
C8350 1/50
C8349 0.47/50
C8347 0.047
C8346 0.047
C8345 0.01
C8380 0.047
C8363 47/6.3
C8361 47/6.3
C8378 0.047
C8385 0.047
C8334 1000P
C8335 0.01
C8336 0.01
C8337 1/50
C8338 47/6.3
C8339 0.01
C8384 0.047
C8340 1/50
C8341 0.01
C8343 560P (CH)
C8344 0.01
C8333 0.01
C8332 0.01
C8331 4.7/25
C8376 0.047
C8362 47/6.3
C8321 1/50
C8320 0.47/50
C8319 1/50
C8318 0.047
C8317 0.15
C8316 0.01
C8377 0.047
C8303 1000P
C8304 0.01
C8305 0.01
C8306 1/50
C8307 47/6.3
C8308 0.01
C8309 1/50
C8310 0.01
C8375 0.047
C8312 560P (CH)
C8313 0.01
C8373 0.047
C8301 0.01
C8302 0.01
C8372 0.047
C8314 100P (CH)
C8374 0.047
C8315 0.1
CN8301
1 GND
2 SWD 5V(ANALOG)
3 (Y OUT)
4 GND
5 R-Y OUT
6 B-Y OUT
7 GND
8 COMP SYNC (C)
9 GND
TO DM-1
CN8302
1 GND
2 (C) V IN
3 GND
4 HDW
5 (VDW)
6 GND
7 FSC (180°)
8 GND
9 FSC (90°/270°)
10 GND
11 (P) V IN
12 HDR
TO DM-1
CN8303
1 P IN PH
2 (BG)
3 (SRCE2)
4 (SRCE1)
5 GND
6 ACC C OUT
7 GND
8 COMP SYNC (P)
9 GND
TO DM-1
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31

VOLTAGE : STOP MODE


IC8301
SWD 5V
Q8306
2SA1179
BUFFER
C8372 0.047
R8315 470
C8374 0.047
R8326 1.5K
SVR8302 47K
C8313 0.01
C8316 0.01
R8313 1K
C8390 47P
R8325 1.5K
C8373 0.047
Q8302
2SC2814
BUFFER
Q8303
2SA1256
AMP
Q8305 BUFFER
2SA1179
R8314 1K
R8317 910
4233V63950

P.C.B. DM-5 DIGITAL VIDEO CIRCUIT (143-0-233V-65800)

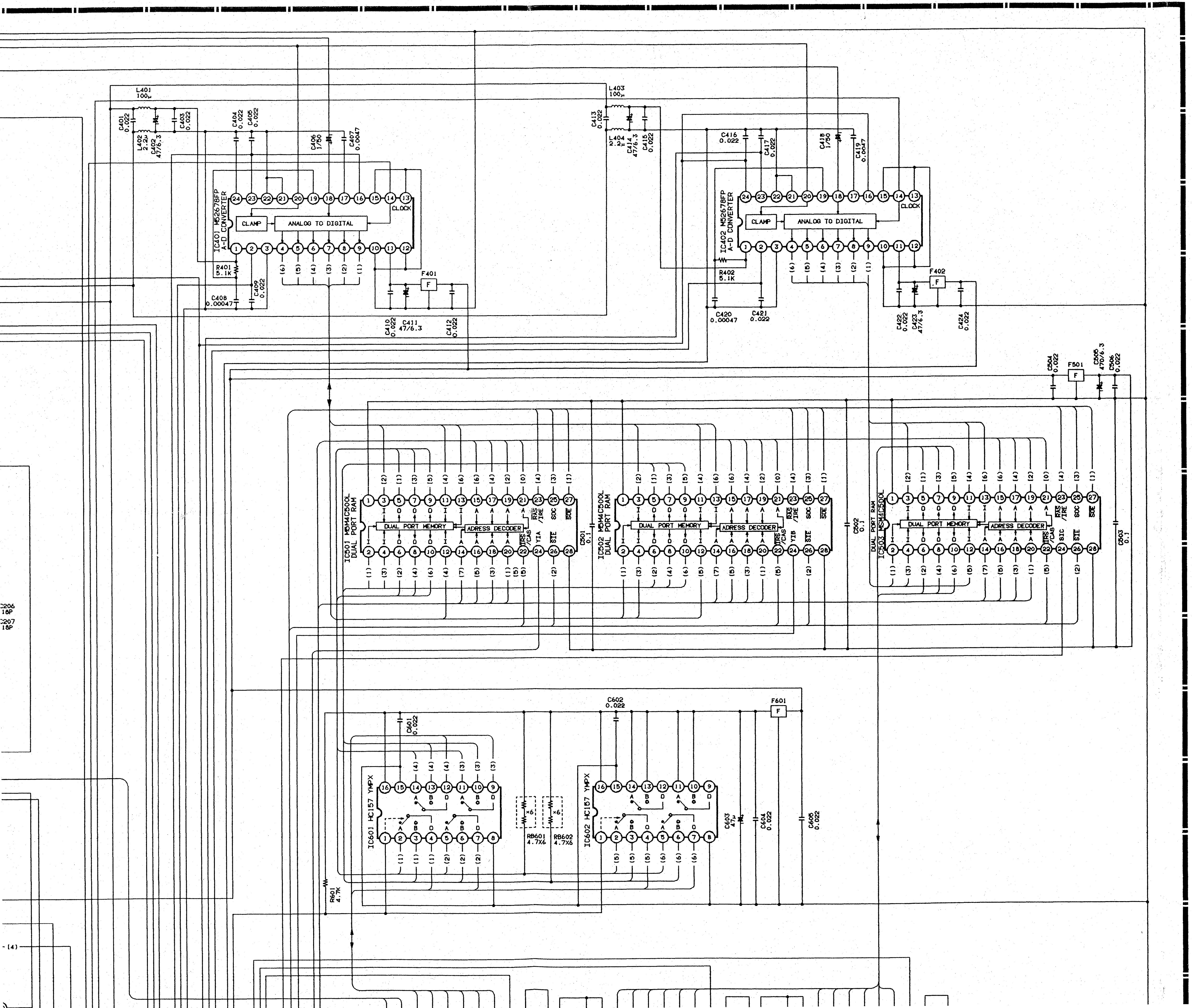


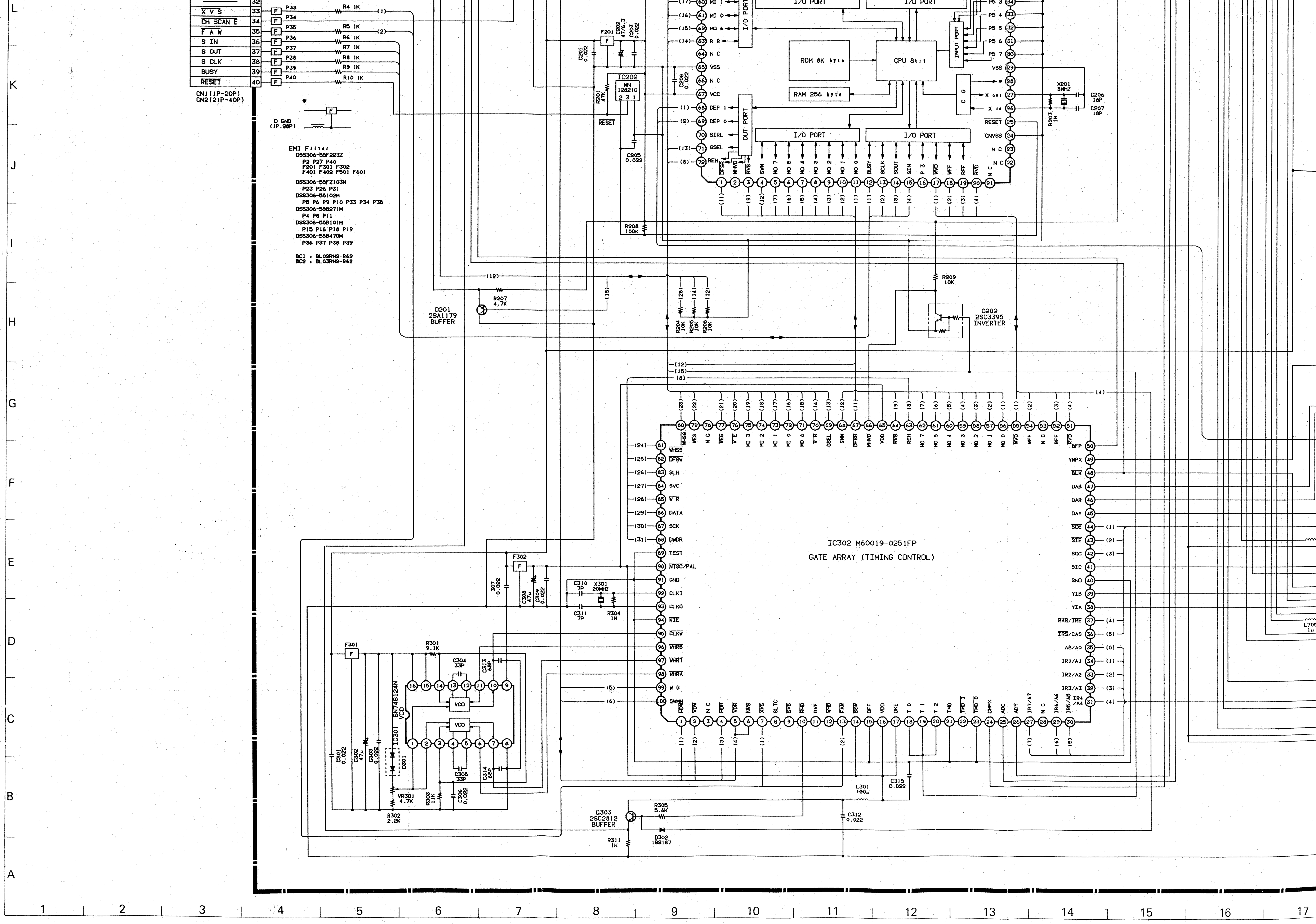
D GND 1
SWD 5V (ANALOG) 2
A GND 3
Y IN 4
B-Y IN 5
R-Y IN 6
COMP SYNC (C) 7
Y OUT 8
R-Y OUT 9
B-Y OUT 10
B F P 11
B L K 12
READ COMP SYNC 13
G N D 14
H D W 15
V D W 16
(D GND) NC 17
H D R 18
V D R 19
G N D 20
SWMM 21
22
S W M 23
P IN P H 24
B G 25
SRCE 2 26
SWD 5V(DIGITAL) 27
D GND 28
29
30
SRCE 1 31
32
X V S 33
CH SCAN E 34
F A W 35
S IN 36
S OUT 37
S CLK 38
BUSY 39
RESET 40
CN1(1P-20P)
CN2(2)P-40P)
D1 RLZ6.2V
L1 BC1
L2 BC1
C1 100/6.3
D2 RLZ6.2V
L3 BC1
L4 BC1
C2 100/6.3
R1 1K
R2 1K
R3 1K
R4 1K
R5 1K
R6 1K
R7 1K
R8 1K
R9 1K
R10 1K
R101 2.2K
Q101 BUFFER 2SA1179
L101 100μ
C101 0.022
R102 4.7K
L102 BC2
IC101 HC4053 CMPX
C102 0.022
C103 0.022
C104 47/6.3
L103 2.2μ
C105 0.022
D101 1SS184
R103 4.7K
IC201 M50747-680FP INTERFACE μ-COM
ROM 8K byte
CPU 8bit
RAM 256 byte
I/O PORT
INPUT PORT
OUT PORT
C G
X201 8MHZ
C206 18P
C207 18P
R203 1M
F201
C202 47/6.3
C203 0.022
C201 0.022
IC202 MN 12821Q
R201 47K
RESET
C208 0.022
C205 0.022
R208 100K
R209 10K
Q202 2SC3395 INVERTER
Q201 2SA1179 BUFFER
R207 4.7K
R204 10K
R205 10K
R206 10K
L401 100μ
C401 0.022
L402 2.2μ
C402 47/6.3
C403 0.022
C404 0.022
C405 0.022
C406 1/50
C407 0.0047
IC401 M52676FP A-D CONVERTER
CLAMP
ANALOG TO DIGITAL
CLOCK
R401 5.1K
C408 0.00047
C409 0.022
C410 0.022
C411 47/6.
IC501 M5M4C500L DUAL PORT RAM
DUAL PORT
C601 0.022
IC601 HC157 YMPX
R601 4.7K

EMI Filter
DSS306-55F223Z
P2 P27 P40
F201 F301 F302
F401 F402 F501 F601
DSS306-55FZ103N
P23 P26 P31
DSS306-55102M
P5 P6 P9 P10 P33 P34 P35
DSS306-55B271M
P4 P8 P11
DSS306-55B101M
P15 P16 P18 P19
DSS306-55B470M
P36 P37 P38 P39

BC1 : BL02RN2-R62
BC2 : BL03RN2-R62

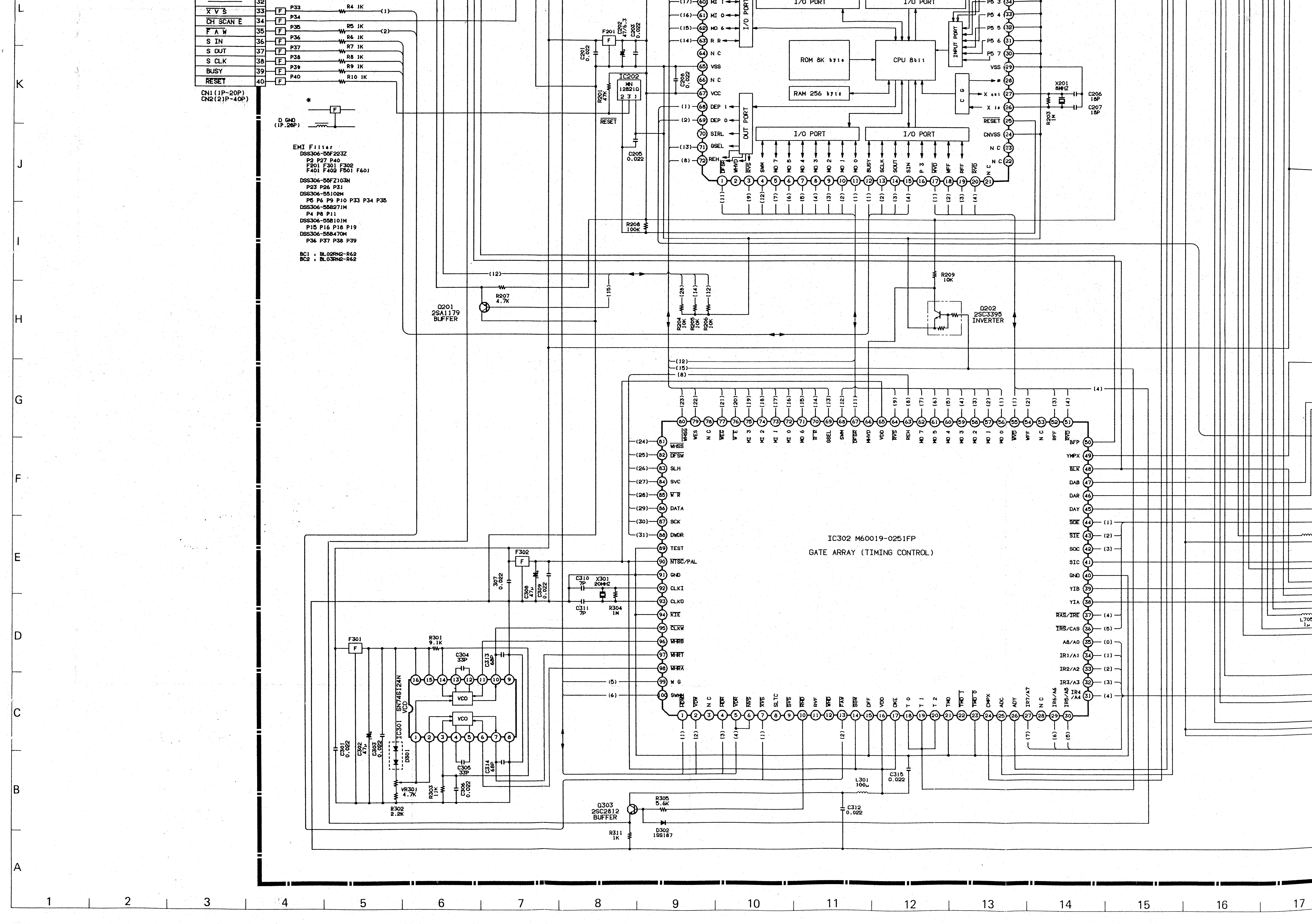
3. DM-5 DIGITAL VIDEO CIRCUIT (143-0-233V-65800)

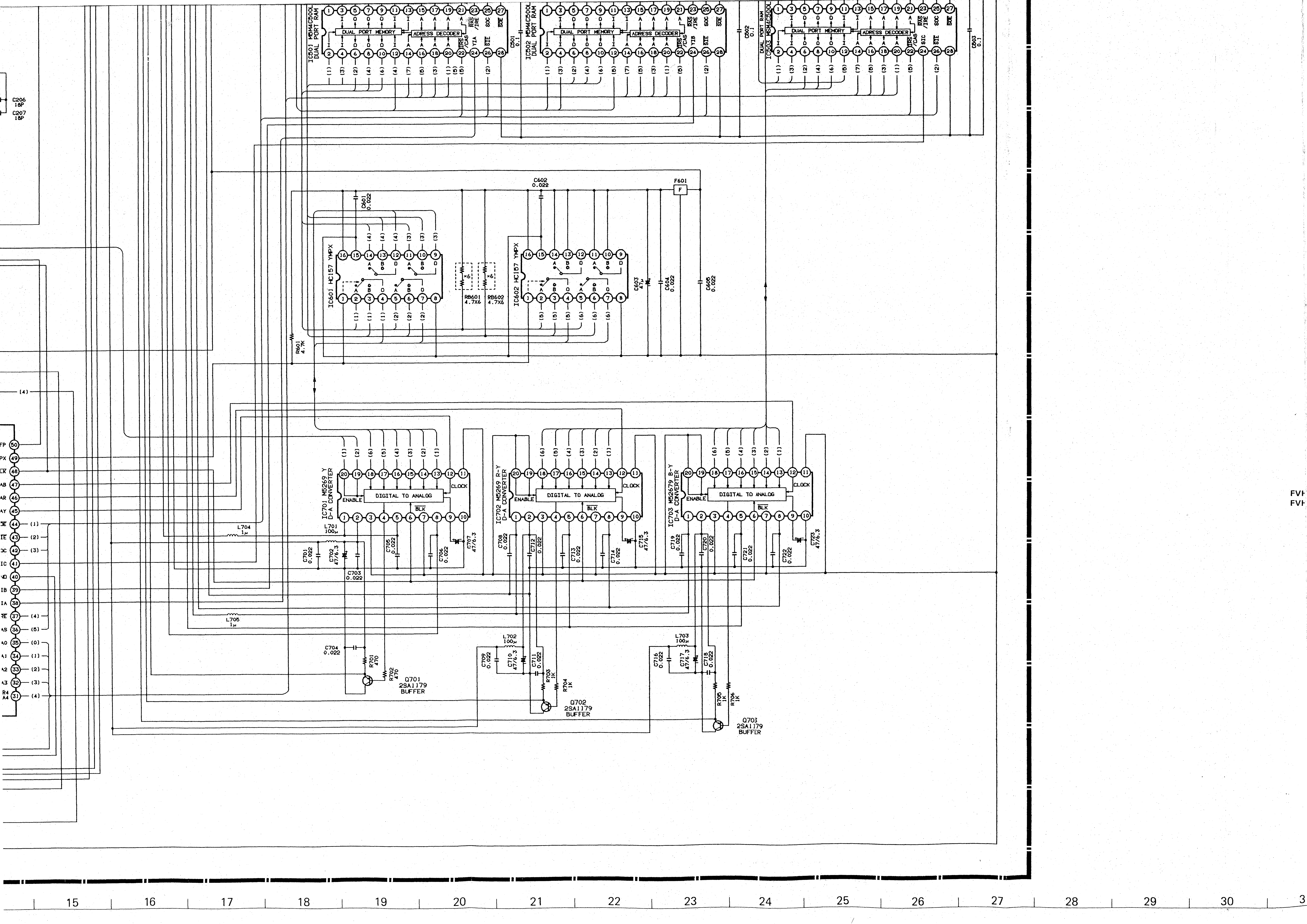

L401 100μ
C401 0.022
L402 2.2μ
C402 47/6.3
C403 0.022
C404 0.022
C405 0.022
C406 1/50
C407 0.0047
IC401 M5267BFP A-D CONVERTER
CLAMP
ANALOG TO DIGITAL
CLOCK
R401 5.1K
C408 0.00047
C409 0.022
F401
F
C410 0.022
C411 47/6.3
C412 0.022
L403 100μ
C413 0.022
L404 2.2μ
C414 47/6.3
C415 0.022
C416 0.022
C417 0.022
C418 1/50
C419 0.0047
IC402 M5267BFP A-D CONVERTER
R402 5.1K
C420 0.00047
C421 0.022
F402
C422 0.022
C423 47/6.3
C424 0.022
C504 0.022
F501
C505 470/6.3
C506 0.022
IC501 M5M4C500L DUAL PORT RAM
DUAL PORT MEMORY
ADRESS DECODER
RAS /IRE
IRS /CAS
SOC
SOE
STE
YIA
C501 0.1
IC502 M5M4C500L DUAL PORT RAM
YIB
C502 0.1
IC503 M5M4C500L DUAL PORT RAM
SIC
C503 0.1
C602 0.022
F601
C601 0.022
IC601 HC157 YMPX
IC602 HC157 YMPX
RB601 4.7X6
RB602 4.7X6
C603 47μ
C604 0.022
C605 0.022
R601 4.7K
C206 18P
C207 18P
(4)


X V S
CH SCAN E
F A W
S IN
S OUT
S CLK
BUSY
RESET
CN1(1P-20P)
CN2(21P-40P)
D GND
(1P.28P)
F201
C201 0.022
C202 47/6.3
C203 0.022
IC202 MN 1282IQ
R201 47K
RESET
C208 0.022
C205 0.022
R208 100K
I/O PORT
OUT PORT
INPUT PORT
ROM 8K byte
CPU 8bit
RAM 256 byte
C G
X201 8MHZ
C206 18P
C207 18P
R203 1M
R209 10K
Q202 2SC3395 INVERTER
Q201 2SA1179 BUFFER
R207 4.7K
R204 10K
R205 10K
R206 10K
IC302 M60019-0251FP
GATE ARRAY (TIMING CONTROL)
F302
307 0.022
C308 47µ
C309 0.022
C310 7P
X301 20MHZ
C311 7P
R304 1M
F301
R301 9.1K
C304 33P
C313 68P
C314 68P
C305 33P
IC301 SN74S124N VCO
VCO
D301
C301 0.022
C302 47µ
C303 0.022
VR301 4.7K
R302 2.2K
R303 11K
C306 0.022
L301 100µ
C315 0.022
C312 0.022
Q303 2SC2812 BUFFER
R305 5.6K
D302 1SS187
R311 1K
L705 1µ
L
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

EMI Filter
DSS306-55F223Z
P2 P27 P40
F201 F301 F302
F401 F402 F501 F601
DSS306-55FZ103N
P23 P26 P31
DSS306-55102M
P5 P6 P9 P10 P33 P34 P35
DSS306-55B271M
P4 P8 P11
DSS306-55B101M
P15 P16 P18 P19
DSS306-55B470M
P36 P37 P38 P39

BC1 : BL02RN2-R62
BC2 : BL03RN2-R62


X V S 33 P33 R4 1K (1)
CH SCAN E 34 P34
F A W 35 P35 R5 1K (2)
S IN 36 P36 R6 1K
S OUT 37 P37 R7 1K
S CLK 38 P38 R8 1K
BUSY 39 P39 R9 1K
RESET 40 P40 R10 1K
CN1(1P-20P)
CN2(21P-40P)
D GND (1P.26P)
EMI Filter
DSS306-55F223Z
P2 P27 P40
F201 F301 F302
F401 F402 F501 F601
DSS306-55FZ103N
P23 P26 P31
DSS306-55102M
P5 P6 P9 P10 P33 P34 P35
DSS306-55B271M
P4 P8 P11
DSS306-55B101M
P15 P16 P18 P19
DSS306-55B470M
P36 P37 P38 P39
BC1 : BL02RN2-R62
BC2 : BL03RN2-R62
F201
C201 0.022
C202 47/6.3
C203 0.022
IC202 MN 1282lQ
R201 47K
RESET
C208 0.022
C205 0.022
R208 100K
I/O PORT
ROM 8K byte
CPU 8bit
RAM 256 byte
INPUT PORT
OUT PORT
C G
MI 1 MO 6 R R N C VSS N C VCC DEP 1 DEP 0 SIRL GSEL REH
P5 3 P5 4 P5 5 P5 6 P5 7 VSS X out X in RESET CNVSS N C N C
X201 8MHZ
C206 18P
C207 18P
R203 1M
DFSW MHVD RVS SWH MO 7 MO 5 MO 4 MO 3 MO 2 MO 1 MO 0 BUSY SCLK SOUT SIN P 3 WVD WFF RFF RVD N C
R209 10K
Q201 2SA1179 BUFFER
R207 4.7K
R204 10K
R205 10K
R206 10K
Q202 2SC3395 INVERTER
IC302 M60019-0251FP
GATE ARRAY (TIMING CONTROL)
WHSG WES N C WEG W E MI 3 MI 2 MI 1 MI 0 MO 6 MO 5 GSEL SWH DFSW MHVD VDD RVS REH MO 7 MO 5 MO 4 MO 3 MO 2 MO 1 MO 0 WVD WFF N C RFF RVD
WHSS DFSW SLH SVC W R DATA SCK DWDR TEST NTSC/PAL GND CLKI CLKO KIE CLKW WHRB WHRT WHRA W G SWH
BFP YMPX BLK DAB DAR DAY SOE SIE SOC SIC GND YIB YIA RAS/IRE IRS/CAS A8/A0 IR1/A1 IR2/A2 IR3/A3 IR4/A4
PDWR VDW N C PDR VDR RVS XVS SLTC SVS RHD RVF WHD FAW SSW DFF VDD OKE T 0 T 1 T 2 TMO TMO T TMO 0 CMPX ADC ADY IR7/A7 N C IR6/A6 IR5/A5
F302
307 0.022
C308 47μ
C309 0.022
C310 7P
X301 20MHZ
C311 7P
R304 1M
F301
R301 9.1K
C304 33P
C313 68P
VCO
SN74S124N
IC301 VCO
D301
C301 0.022
C302 47μ
C303 0.022
VR301 4.7K
R302 2.2K
R303 11K
C305 33P
C306 0.022
C314 68P
Q303 2SC2812 BUFFER
R305 5.6K
D302 1SS187
R311 1K
L301 100μ
C315 0.022
C312 0.022
L705 1μ
L K J I H G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17


IC501 M5M4C500L DUAL PORT RAM
IC502 M5M4C500L DUAL PORT RAM
IC503 M5M4C500L DUAL PORT RAM
DUAL PORT MEMORY
ADRESS DECODER
RAS /IRE
SOC
SOE
IRS /CAS
YIA
YIB
SIC
SIE
C501 0.1
C502 0.1
C503 0.1
C206 18P
C207 18P
C601 0.022
C602 0.022
F601
F
IC601 HC157 YMPX
IC602 HC157 YMPX
RB601 4.7X6
RB602 4.7X6
×6
C603 47μ
C604 0.022
C605 0.022
R601 4.7K
IC701 M5269 Y D-A CONVERTER
IC702 M5269 R-Y D-A CONVERTER
IC703 M52679 B-Y D-A CONVERTER
DIGITAL TO ANALOG
ENABLE
CLOCK
BLK
L701 100μ
L702 100μ
L703 100μ
L704 1μ
L705 1μ
C701 0.022
C702 47/6.3
C703 0.022
C704 0.022
C705 0.022
C706 0.022
C707 47/6.3
C708 0.022
C709 0.022
C710 47/6.3
C711 0.022
C712 0.022
C713 0.022
C714 0.022
C715 47/6.3
C716 0.022
C717 47/6.3
C718 0.022
C719 0.022
C720 0.022
C721 0.022
C722 0.022
C723 47/6.3
R701 470
R702 470
R703 1K
R704 1K
R705 1K
R706 1K
Q701 2SA1179 BUFFER
Q702 2SA1179 BUFFER
Q703 2SA1179 BUFFER
FP
PX
AB
AR
AY
IC
IB
IA
AS
A0
A1
A2
A3
R4 A4
15
16
17
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FVH
FVH

SERVICE MANUAL

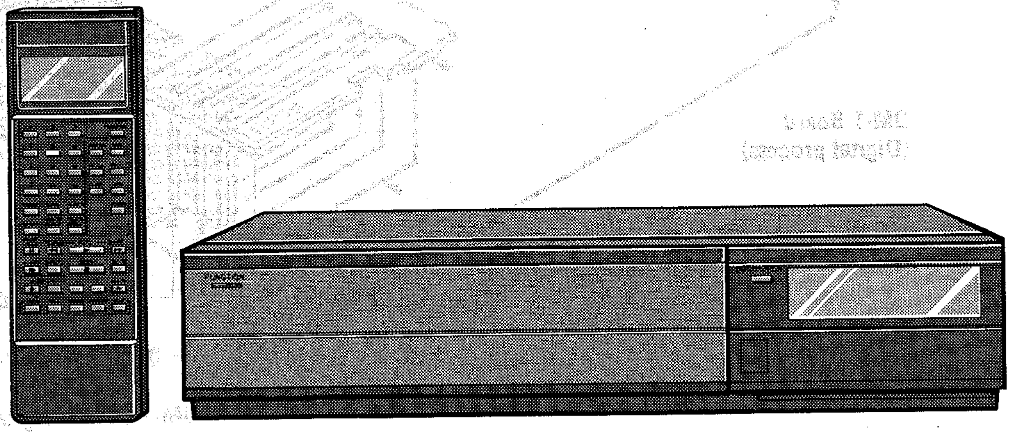
V12379

FISHER

FVH-D40 series

COLOUR VIDEO CASSETTE RECORDER

VHS PAL HQ DIGITAL



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A11300 BP2D/EXF, GF, SPF

REFERENCE NO. WM-21747

1. LOCATION OF THE MAIN BOARDS

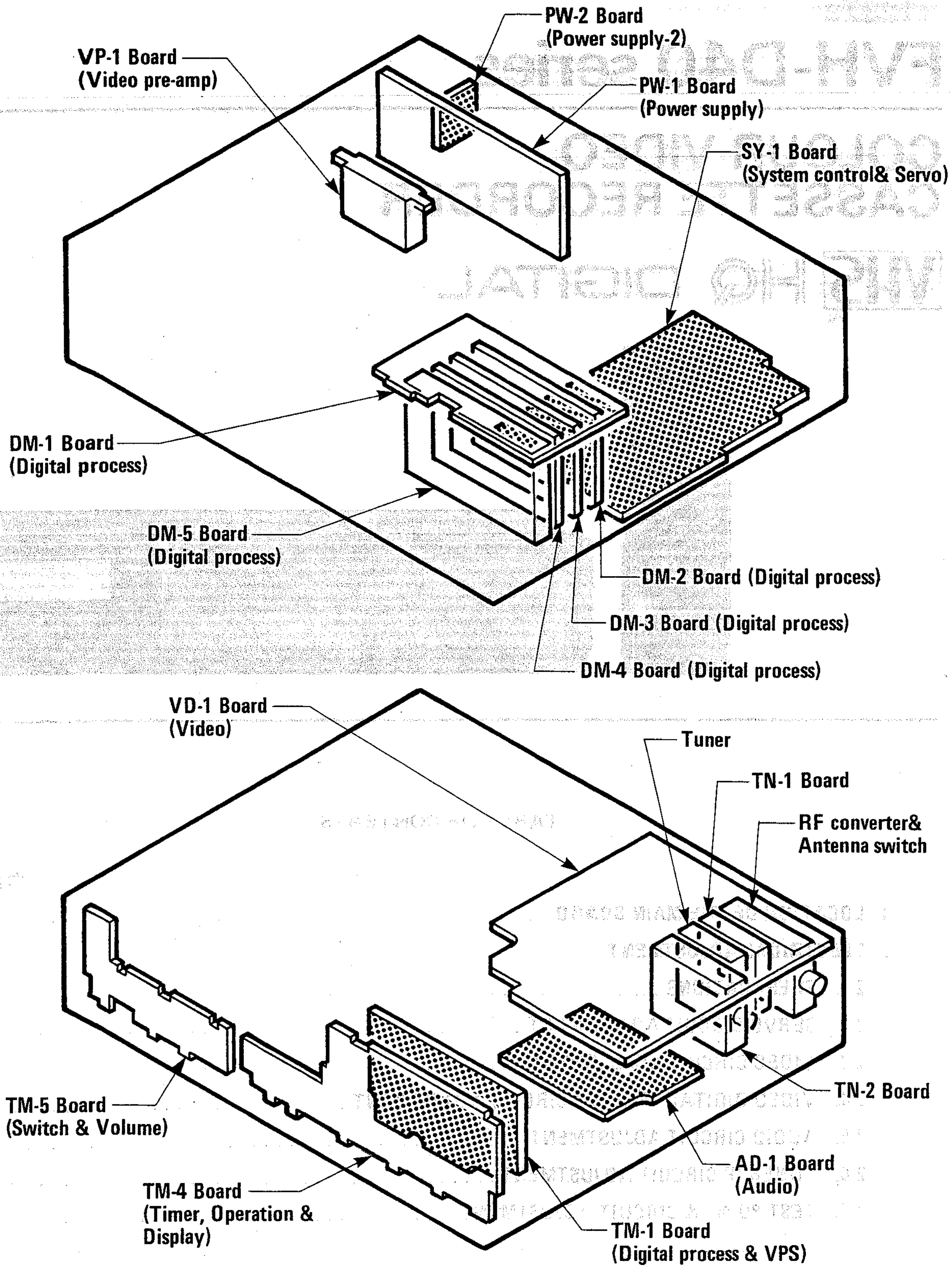

PW-2 Board
(Power supply-2)
VP-1 Board
(Video pre-amp)
PW-1 Board
(Power supply)
SY-1 Board
(System control& Servo)
DM-1 Board
(Digital process)
DM-5 Board
(Digital process)
DM-2 Board (Digital process)
DM-3 Board (Digital process)
DM-4 Board (Digital process)
VD-1 Board
(Video)
Tuner
TN-1 Board
RF converter&
Antenna switch
TN-2 Board
TM-5 Board
(Switch & Volume)
AD-1 Board
(Audio)
TM-4 Board
(Timer, Operation &
Display)
TM-1 Board
(Digital process & VPS)

Fig. 1-1-1

2. ELECTRICAL ADJUSTMENTS

2-1. PREPARATIONS

2-1-1. EQUIPMENTS

- **Colour TV monitor**
- **Colour-bar generator (with RF and LINE OUTPUT)**
- **Modulated chroma generator**
- **Audio frequency oscillator**
- **Anttenuator**
- **Oscilloscope (dual trace; frequency response: 10MHz or more; probe: 10:1)**
- **Frequency counter (countable to 10MHz or higher)**
- **Digital voltmeter**
- **Alignment cassette (VHJ-0008) Colour bar 1KHz**
- **Alignment cassette (VHJ-0009) Monoscope 6KHz**
- **Alignment cassette (VHJ-0023) PAL Monoscope 6KHz, PAL Colour-bar 1KHz, SECAM Colour-bar 1KHz, PAL RF Sweep MESECAM Colour-bar 1KHz, NTSC Colour-bar 1KHz.**
- **AC voltmeter**
- **In/output probes**
- **Jigs for DM-2, 3, 4, 5 board (VHJ-0037, VHJ-0038, VHJ-0039, VHJ-0040)**

2-1-2. SET-UP

Because the RF input signal is used for adjustment of circuits, connect the colour-bar generator to the ANT IN terminal of the VCR. The RF input signal is processed by the tuner and IF circuit. It is important that the video output signal of the IF circuit satisfy the items shown in figure. Connect the oscilloscope to the VIDEO OUTPUT terminal of the video circuit, and then check the video output signal.

- The amplitude of the sync signal should be approximately 0.3Vp-p.
- The amplitude of the video signal should be approximately 0.7Vp-p.
- While observing the oscilloscope or TV screen, make fine-tuning adjustments so that the colour burst amplitude is approximately 0.3Vp-p.
- Check to be sure that there is no spike noise in the sync part of the horizontal sync signal.

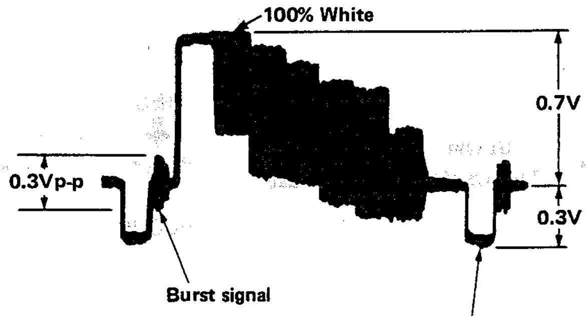
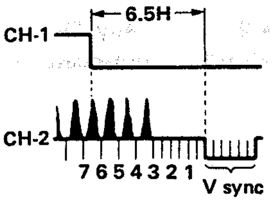
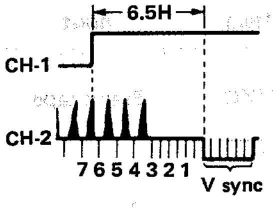
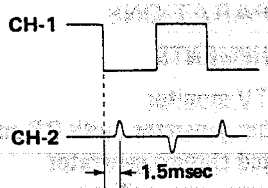
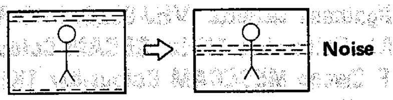
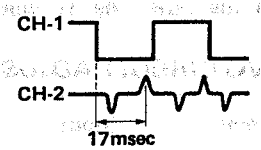


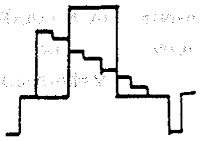
Fig. 2-1-1

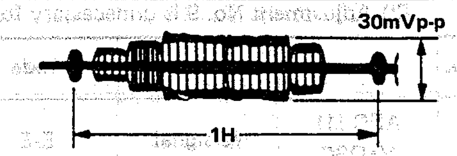
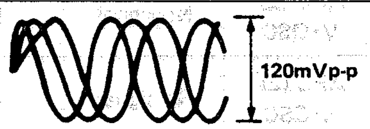
2-2. SERVO CIRCUIT ADJUSTMENT ... SY-1 Board

No.	Item	Input	Mode	Point	Location	Remark
1	CH-1 SWITCHING POSITION	Alignment cassette (VHJ-0009 or VHJ-0023)	PLAY	TP1001 (VIDEO OUT terminal) CN4008 ① (trigger)	SVR4001	 Adjust SVR4001 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ±0.5H from the fall of the CH-1 waveform.
2	CH-2 SWITCHING POSITION	Alignment cassette (VHJ-0009 or VHJ-0023)	PLAY	TP1001 (VIDEO OUT terminal) CN4008 ① (trigger)	SVR4002	 Adjust SVR4002 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ±0.5H from the rise of the CH-1 waveform.

No.	Item	Input	Mode	Point	Location	Remark
3	TRACKING	Any TV broadcast	REC ⬇ PLAY	CN4008 ④ CN4008 ① (trigger)	SVR4003	 1. Playback the recorded portion, and set the normal tracking control to the center click position. 2. Adjust SVR4003 so that the phase of the CH-2 waveform is 1.5 ±0.5msec after the fall of the CH-1 waveform. In this instance, delay the CH-2 waveform.
4	SLOW TRACKING	Any TV broadcast	REC ⬇ PLAY ⬇ SLOW	TV screen	SVR4005	 1. Connect a lead wire between TP8001 (DM-1 board) and ground. 2. Playback the recorded portion, and put the VCR in the SLOW mode. Then set the slow tracking control to the center position. 3. Adjust SVR4005 so that the noise appears at the center position on the TV screen. 4. Remove a lead wire.
5	X 2 PLAYBACK	Any TV broadcast	REC ⬇ PLAY ⬇ X 2	CN4008 ④ CN4008 ① (trigger)	SVR4006	 1. Playback the recorded portion, and put the VCR in the X2 playback mode. Then set the normal tracking control to the center position. 2. Adjust SVR4006 so that the phase of the CH-2 waveform is 17 ±1msec after the fall or rise of the CH-1 waveform. In this instance, delay the CH-2 waveform.

2-3. VIDEO CIRCUIT ADJUSTMENT ... VD-1 Board

No.	Item	Input	Mode	Point	Location	Remark
1	VXO	Brank tape	PLAY	TP1006	SVR1202	Adjust SVR1202 so that the frequency is 4433619 ±20Hz.
2	CCD LEVEL	Colour bar from Colour bar generator	E-E	TP1003 TP1004	SVR1102	 Adjust SVR1102 so that the same level of TP1003 and TP1004 waveforms.

No.	Item	Input	Mode	Point	Location	Remark
3	CHRO-MINANCE SIGNAL RECORDING CURRENT	Colour-bar from Colour bar generator	REC	CN1603 ① (GND) CN1603 ③ (HOT)	SVR1201	 1. Turn SVR1001 all the way to the left looking from the parts side. 2. Adjust SVR1201 so that the level is 30 ±2mVp-p.
4	LUMINANCE SIGNAL RECORDING CURRENT	B/W signal from Colour bar generator	REC	CN1603 ① (GND) CN1603 ③ (HOT)	SVR1001	 Adjust SVR1001 so that the level is 120 ±5mVp-p.
5	VIDEO INPUT LEVEL	Colour-bar from Colour-bar generator	E-E	TP1001 TP1012	SVR1502	Adjust SVR1502 so that the same level of TP1001 and TP1012 waveforms.

2-4. VIDEO DIGITAL PROCESS CIRCUIT ADJUSTMENT ... DM-2, 3, 4 Board

The digital process circuit boards are installed in the unit on the right side in five parts. The inner circuit boards cannot be adjusted without first removing the DM-2 & DM-3 circuit boards. When making an adjustment, therefore, use the jigs (VHJ-0037, VHJ-0038, VHJ-0039, VHJ-0040) for making the connection between them. (See Fig. 2-4-1)

(Caution)
Each jigs should be soldered on DM-1 board.

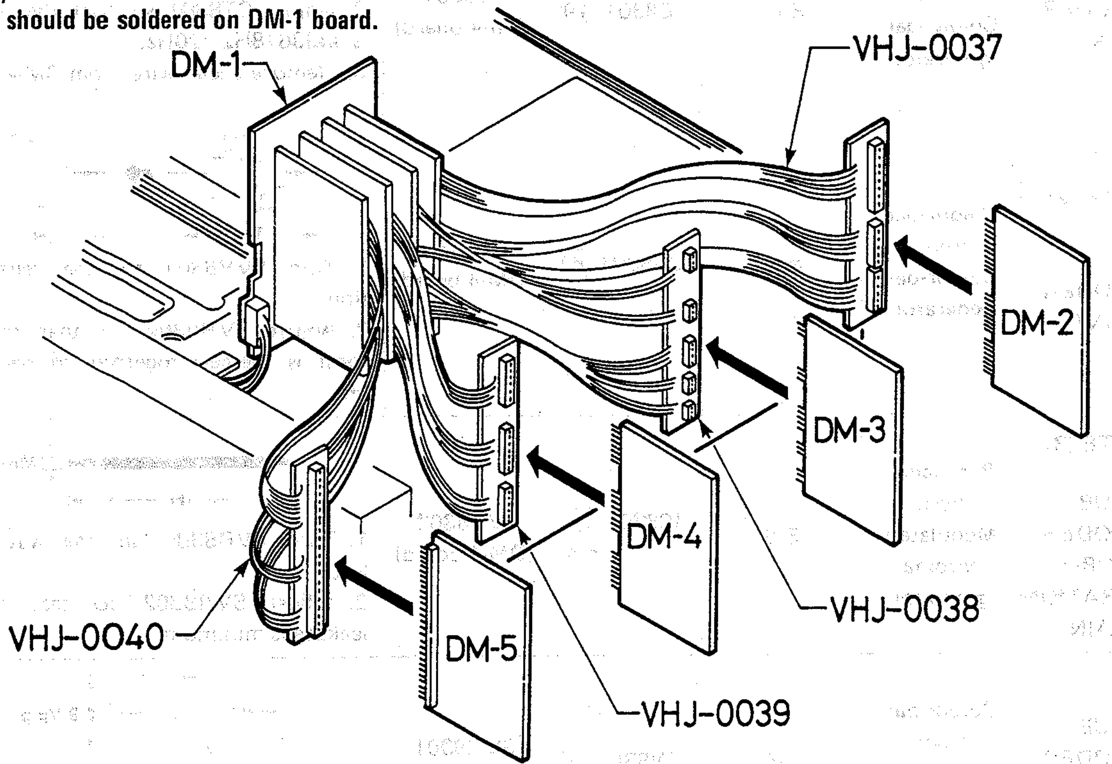
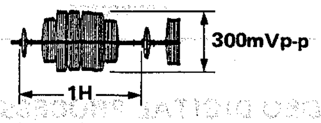
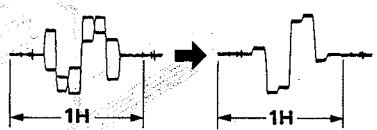
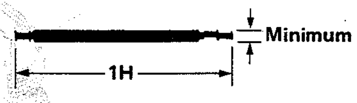
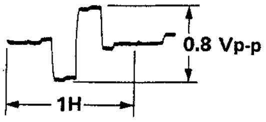
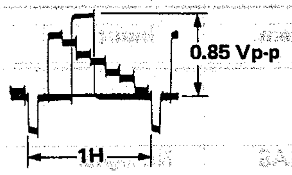
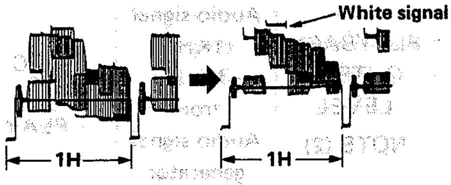
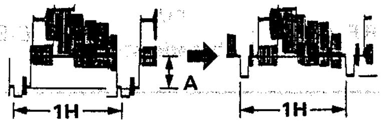
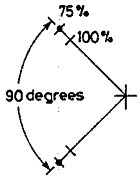


Fig. 2-4-1 Method of using jigs

NOTE: (1) No signal E-E mode is do not supply any signal to the VIDEO INPUT terminal (CN1501 ⑲).
(2) Adjustment No. 8 is unnecessary for the new DM-4 board (P.C.B. No. 4 233V 63950A~).
(3) Adjustment No. 9 is unnecessary for the old DM-4 board (P.C.B. No. 4 233V 63950).

No.	Item	Input	Mode	Point	Location	Remark
1	AFC (1) V•OSC	No signal	E-E	TP8204	SVR8203 (DM-3 board)	Adjust SVR8203 so that the frequency is 46 ±1Hz.
2	AFC (1) H•OSC	No signal	E-E	TP8203	SVR8204 (DM-3 board)	Adjust SVR8204 so that the frequency is 15625 ±50Hz.
3	AFC (2) V•OSC	No signal	E-E	TP8202	SVR8201 (DM-3 board)	Adjust SVR8201 so that the frequency is 46 ±1Hz.
4	AFC (2) H•OSC	No signal	E-E	TP8201	SVR8202 (DM-3 board)	Adjust SVR8202 so that the frequency is 15625 ±50Hz.
5	MAIN DECODER VXO	Colour-bar from Colour-bar generator	E-E	IC8302 ⑲	CT8302 (DM-4 board)	1. Connect a lead wire between pin 5 of IC8302 and ground. 2. Adjust CT8302 so that the frequency is 4433618 ±20Hz. 3. Remove a lead wire DM-4 board.
6	MAIN DECODER ACC	Colour-bar from Colour-bar generator	E-E	IC8302 ③	SVR8303 (DM-4 board)	 Adjust SVR8303 so that the level is 300 ±15mVp-p.
7	SUB DECODER VXO	Colour-bar from Colour-bar generator	E-E	IC8301 ⑲	CT8301 (DM-4 board)	1. Connect a lead wire between pin 5 of IC8301 and ground. 2. Adjust CT8301 so that the frequency is 4433618Hz ±20Hz. 3. Remove a lead wire from DM-4 board.
8	NOTE (2) SUB DECODER TINT	Colour-bar from Colour-bar generator	E-E	CN8301 ⑥	SVR8302 (DM-4 board)	 1. Turn SVR8301 to the center position. 2. Adjust SVR8302 so that the waveform is merged together to becomes as one.
9	NOTE (3) SUB DECODER B-Y/R-Y SEPARATION GAIN	B-Y signal from Modulated chroma generator	E-E	IC8301 ③ ⑰	SVR8302 (DM-4 board)	 1. Turn SVR8301 all the way to the left 2. Adjust SVR8302 so that the B-Y leakage is minimum.
10	SUB DECODER ACC LEVEL	Colour-bar from Colour-bar generator	E-E	CN8301 ⑥	SVR8301 (DM-4 board)	 Adjust SVR8301 so that the R-Y level is 0.8 ±0.05Vp-p.

No.	Item	Input	Mode	Point	Location	Remark
11	SUB LUMINANCE LEVEL (1)	Colour-bar from Colour-bar generator	E-E	CN8101 ②	SVR8101 (DM-2 board)	 Adjust SVR8101 so that the luminance level is 0.85 ±0.02Vp-p.
12	ENCODER CARRIER LEAK	Colour-bar from Colour-bar generator	E-E ⬇ MEMORY STILL	IC8105 ⑭	SVR8103 SVR8105 (DM-2 board)	 1. Put the VCR in the E-E mode, then press the MEMORY button. 2. Adjust SVR8103 and SVR8105 so that the white signal carrier leakage is minimum.
13	SET UP LEVEL	Colour-bar from Colour-bar generator	E-E ⬇ MEMORY STILL	IC8105 ⑭	SVR8107 (DM-2 board)	 1. Put the VCR in the E-E mode, then press the MEMORY button. 2. Adjust SVR8107 until "A" portion in the waveform become zero.
14	BURST FLAG PULSE	Colour-bar from Colour-bar generator	E-E ⬇ MEMORY STILL	VIDEO OUTPUT terminal	SVR8104 SVR8106 (DM-2 board)	 1. The video output terminal of the vectorscope should be terminated at 75ohms. 2. Put the VCR in the E-E mode. 3. Set the vectorscope's GAIN in "75% STD", and vector display in "BOTH" modes. Adjust the vectorscope's "GAIN control" so that the burst spot is located at the 75% specified scale. 4. Put the VCR in the MEMORY STILL mode. 5. Adjust SVR8104 to obtain 90 degrees of burst phase. 6. Adjust SVR8106 so that the burst spot is located at the 75% specified scale.

2-5. AUDIO CIRCUIT ADJUSTMENT ... AD-1 Board

NOTE: (1) No signal record mode is do not supply any signal to the AUDIO input terminal (CN1501 ② ⑥).

No.	Item	Input	Mode	Point	Location	Remark
1	BIAS	No signal	REC	CN2004 ① (ground) ③ (hot)	SVR2001	1. Set the TU/AV button to "AV" position and put the VCR in the no-signal record mode. 2. Adjust SVR2001 so that the level is 26mVrms.
2	PLAYBACK OUTPUT LEVEL NOTE (2)	Audio signal (1KHz, −3.8dBs) from Audio signal generator	REC ⬇ PLAY	AUDIO OUT terminal (CN1501 ① or ③)	SVR2002	Adjust SVR2002 so that the recorded 1KHz output level becomes −3.8dBs in the PLAY mode.

2-6. TUNER IF CIRCUIT ADJUSTMENT

No.	Item	Input	Mode	Point	Location	Remark
1	RF AGC	TV broadcast	E-E	TV screen	SVR6001	Turn SVR6001 in the direction which causes snow to appear, then in the opposite direction until the snow just disappears.

2-7. TEST POINT AND ADJUSTMENT LOCATION

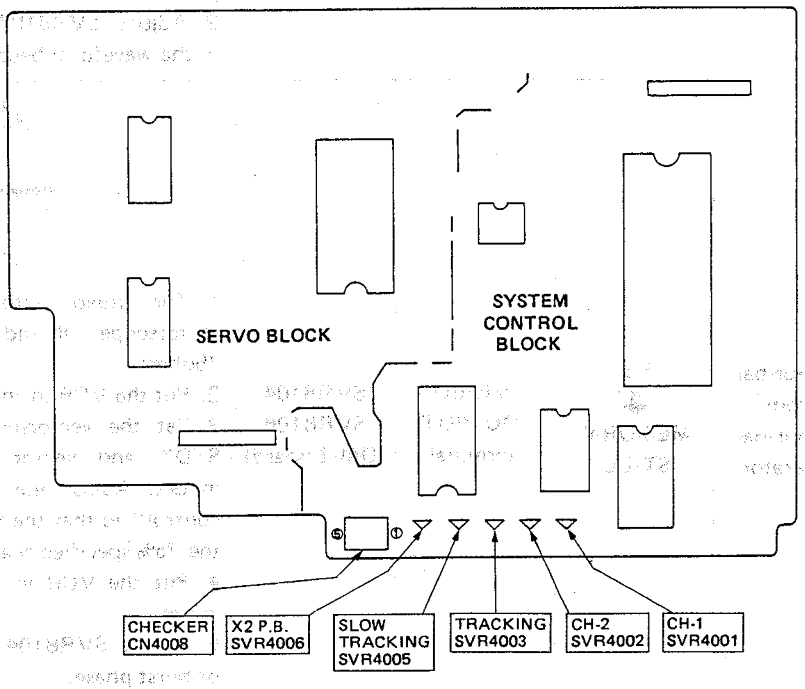

SERVO BLOCK
SYSTEM CONTROL BLOCK
⑤
①
CHECKER CN4008
X2 P.B. SVR4006
SLOW TRACKING SVR4005
TRACKING SVR4003
CH-2 SVR4002
CH-1 SVR4001

Fig. 2-7-1 SY-1 board (Foil side view)

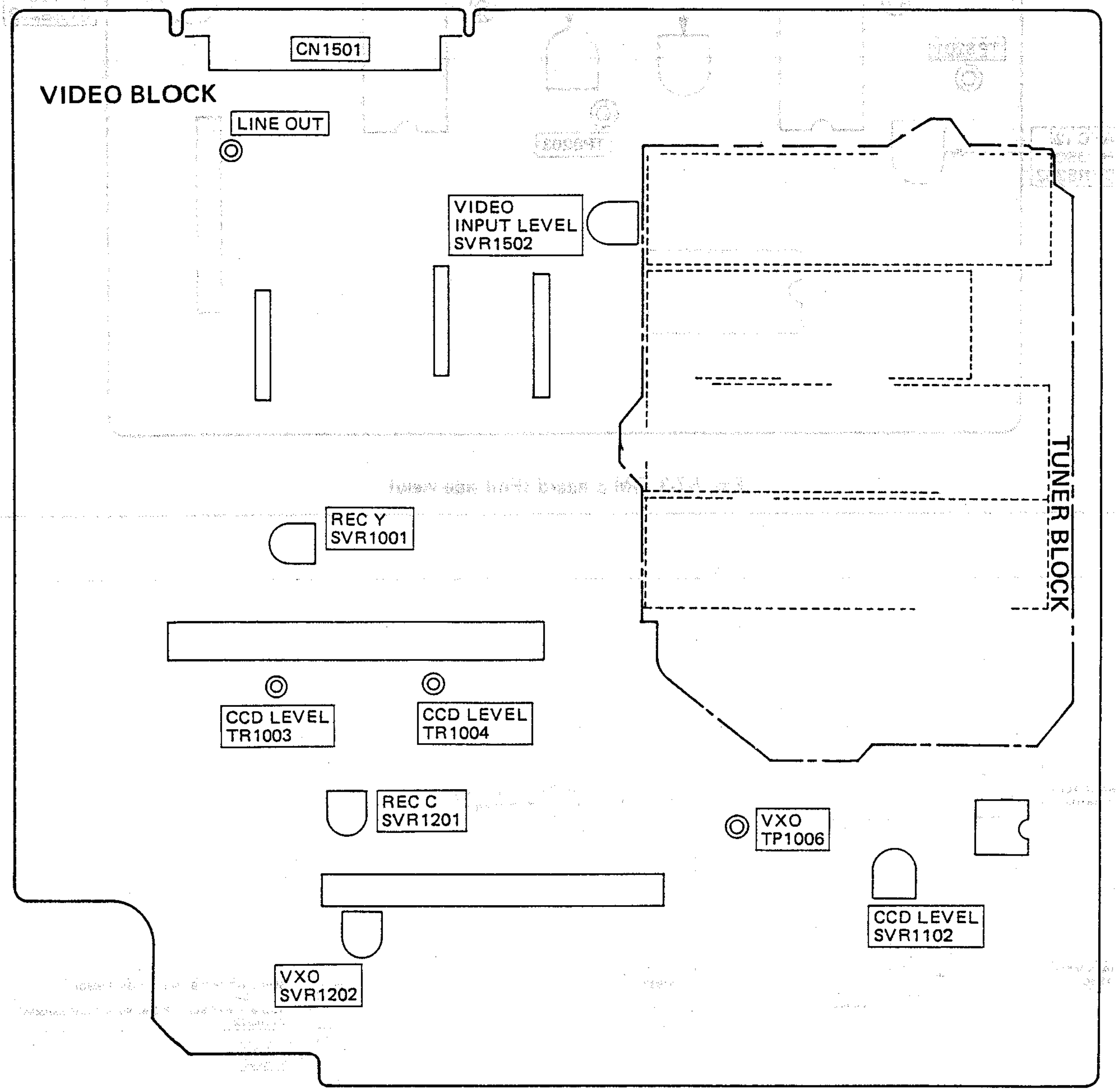

CN1501
VIDEO BLOCK
LINE OUT
VIDEO INPUT LEVEL SVR1502
TUNER BLOCK
REC Y SVR1001
CCD LEVEL TR1003
CCD LEVEL TR1004
REC C SVR1201
VXO TP1006
CCD LEVEL SVR1102
VXO SVR1202

Fig. 2-7-2 VD-1 board (Foil side view)

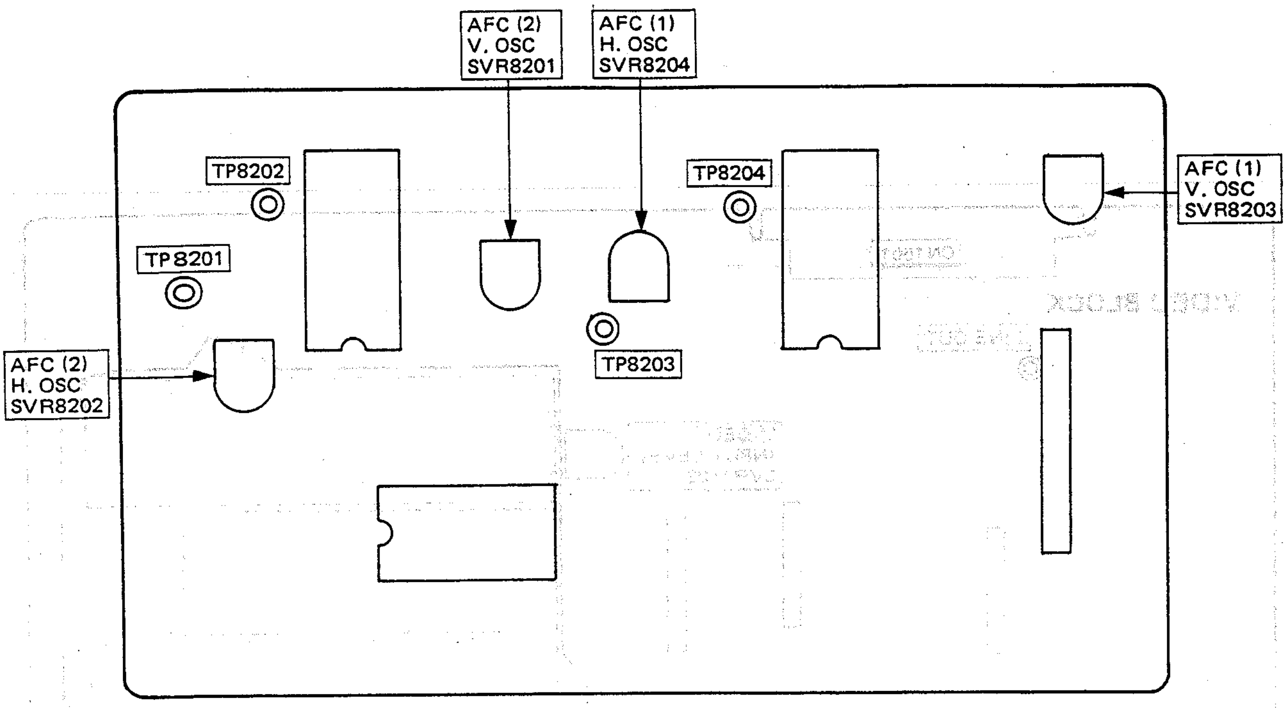

AFC (2)
V. OSC
SVR8201
AFC (1)
H. OSC
SVR8204
TP8202
TP8204
AFC (1)
V. OSC
SVR8203
TP8201
TP8203
AFC (2)
H. OSC
SVR8202

Fig. 2-7-3 DM-3 board (Foil side view)

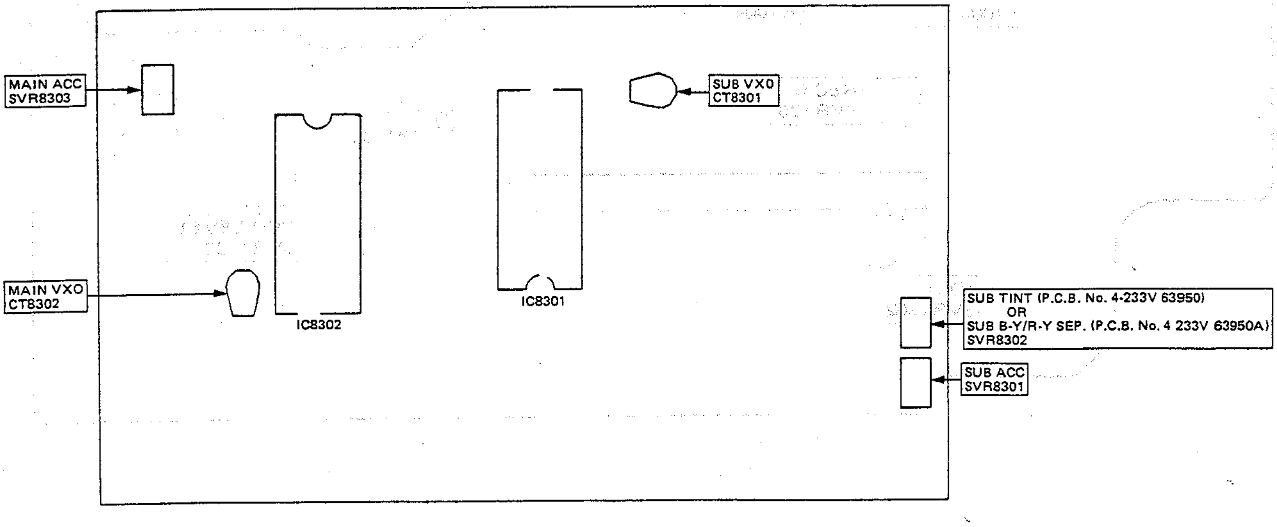

MAIN ACC
SVR8303
SUB VXO
CT8301
MAIN VXO
CT8302
IC8302
IC8301
SUB TINT (P.C.B. No. 4-233V 63950)
OR
SUB B-Y/R-Y SEP. (P.C.B. No. 4 233V 63950A)
SVR8302
SUB ACC
SVR8301

Fig. 2-7-4 DM-4 board (Parts side view)

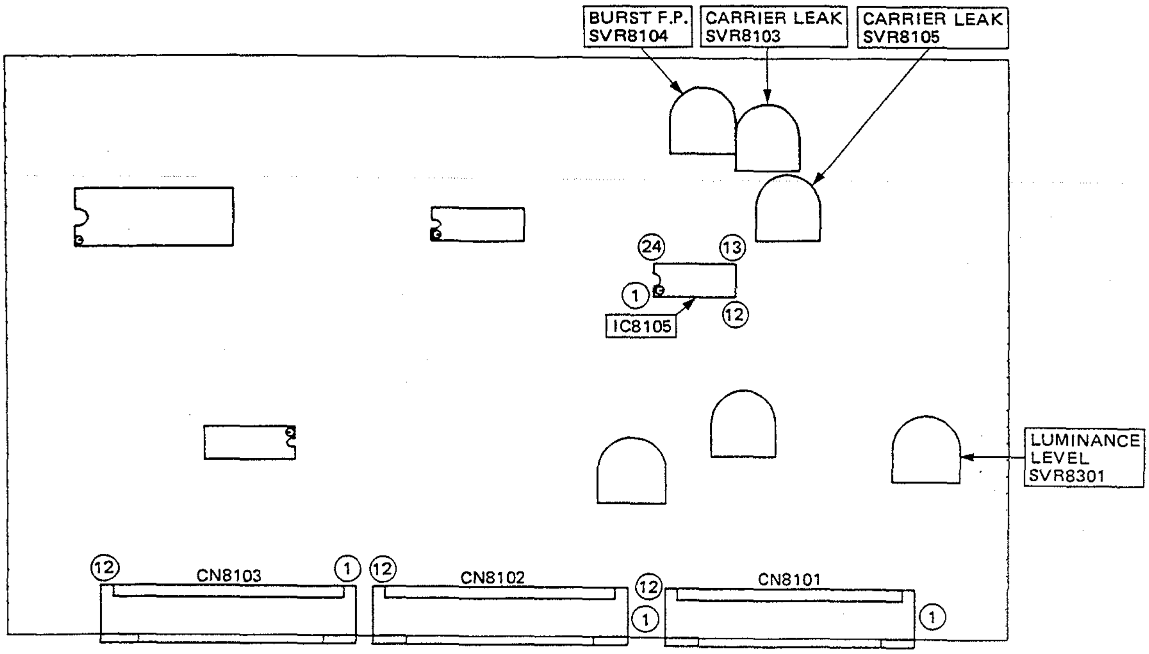

BURST F.P.
SVR8104
CARRIER LEAK
SVR8103
CARRIER LEAK
SVR8105
㉔
⑬
①
IC8105
⑫
LUMINANCE
LEVEL
SVR8301
⑫
CN8103
①
⑫
CN8102
⑫
①
CN8101
①

Fig. 2-7-3 DM-2 board (Side A)

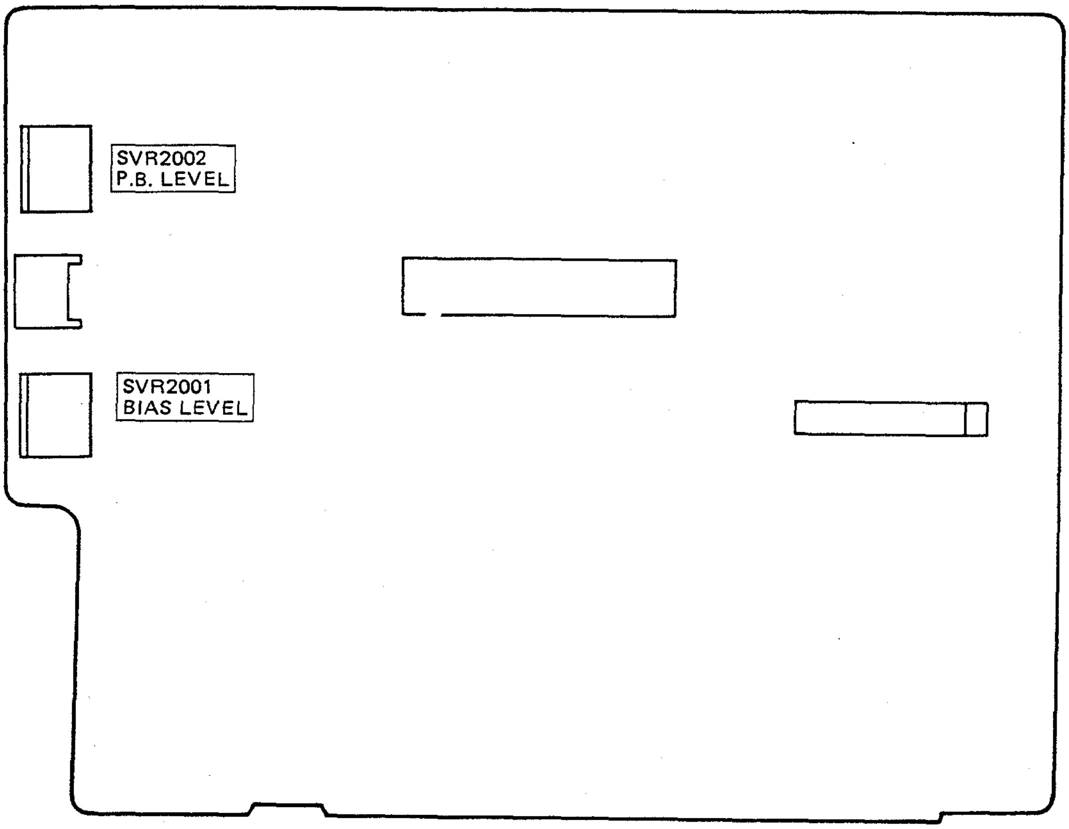

SVR2002
P.B. LEVEL
SVR2001
BIAS LEVEL

Fig. 2-7-4 AD-1 board (Foil side view)

Service Manual

COLOUR VIDEO
CASSETTE RECORDER

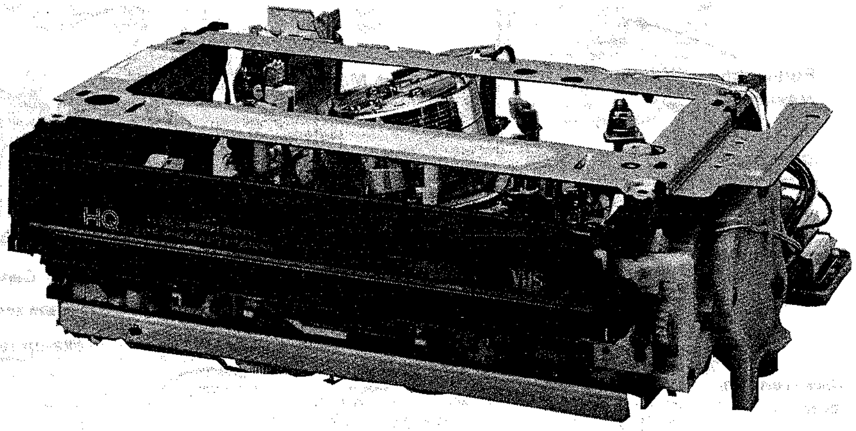
FISHER

065.100.0

FVH-P10, FVH-S10, FVH-P4000, FVH-P20, FVH-P30, FVH-S30, FVH-M30, FVH-D40, FVH-P50, FVH-D55

VHS HQ
PAL SECAM

V05725



MECHANISM DESCRIPTION AND MECHANISM ADJUSTMENT

("PL" Mechanism)

TABLE OF CONTENTS

1. MECHANISM DESCRIPTION

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A11300 **BP Mechanism**

REFERENCE No. WM-21750

1. MECHANISM DESCRIPTION

1-1. IDENTIFICATION AND LOCATION OF MECHANISM MAIN COMPONENTS

(1) Mechanism Assembly (Top View)

0.001.650

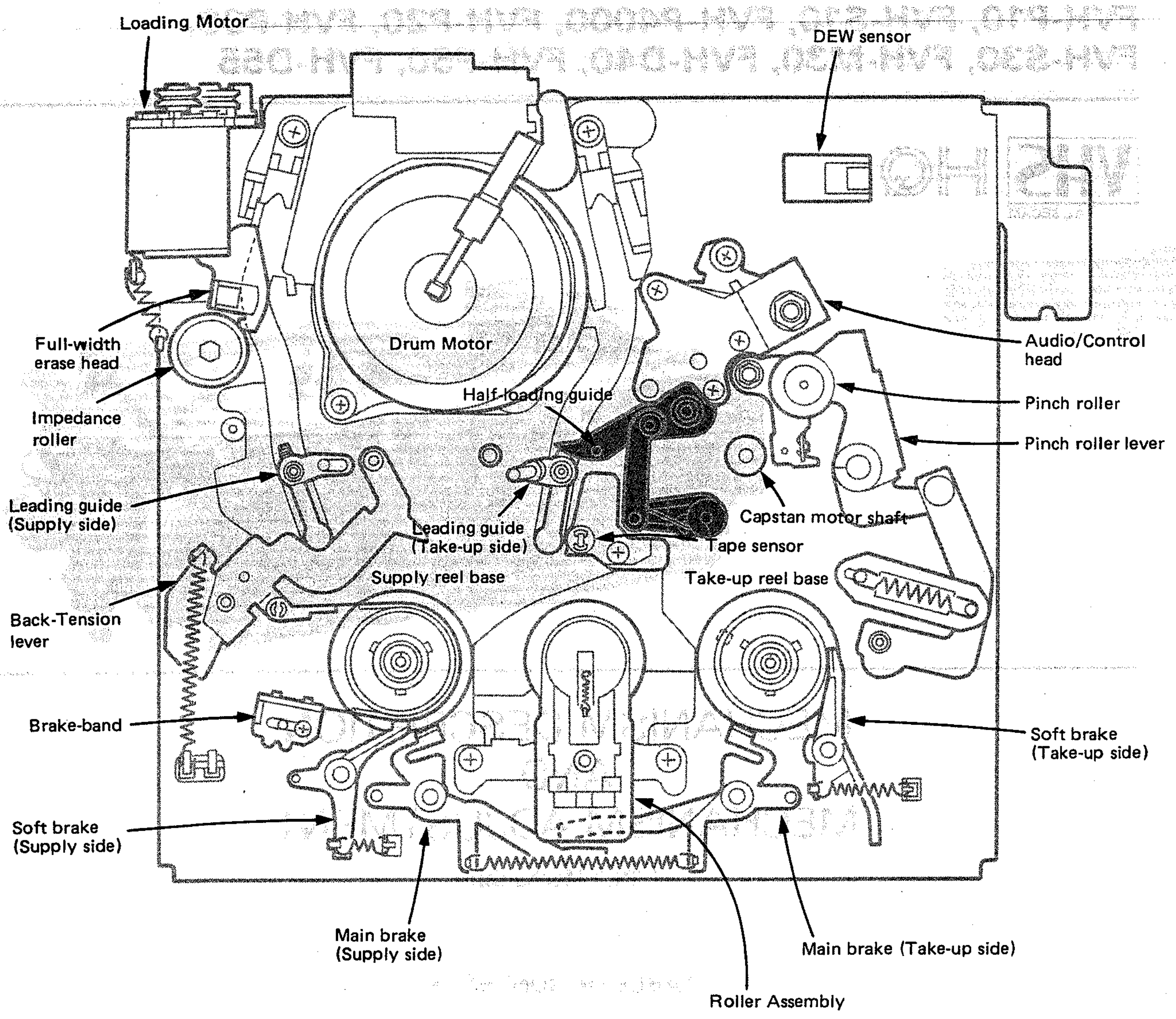

Loading Motor
DEW sensor
Full-width erase head
Drum Motor
Audio/Control head
Impedance roller
Half-loading guide
Pinch roller
Pinch roller lever
Leading guide (Supply side)
Leading guide (Take-up side)
Capstan motor shaft
Tape sensor
Supply reel base
Take-up reel base
Back-Tension lever
Brake-band
Soft brake (Take-up side)
Soft brake (Supply side)
Main brake (Supply side)
Main brake (Take-up side)
Roller Assembly

Fig. 1-1-1

(2) Mechanism Assembly (Bottom View)

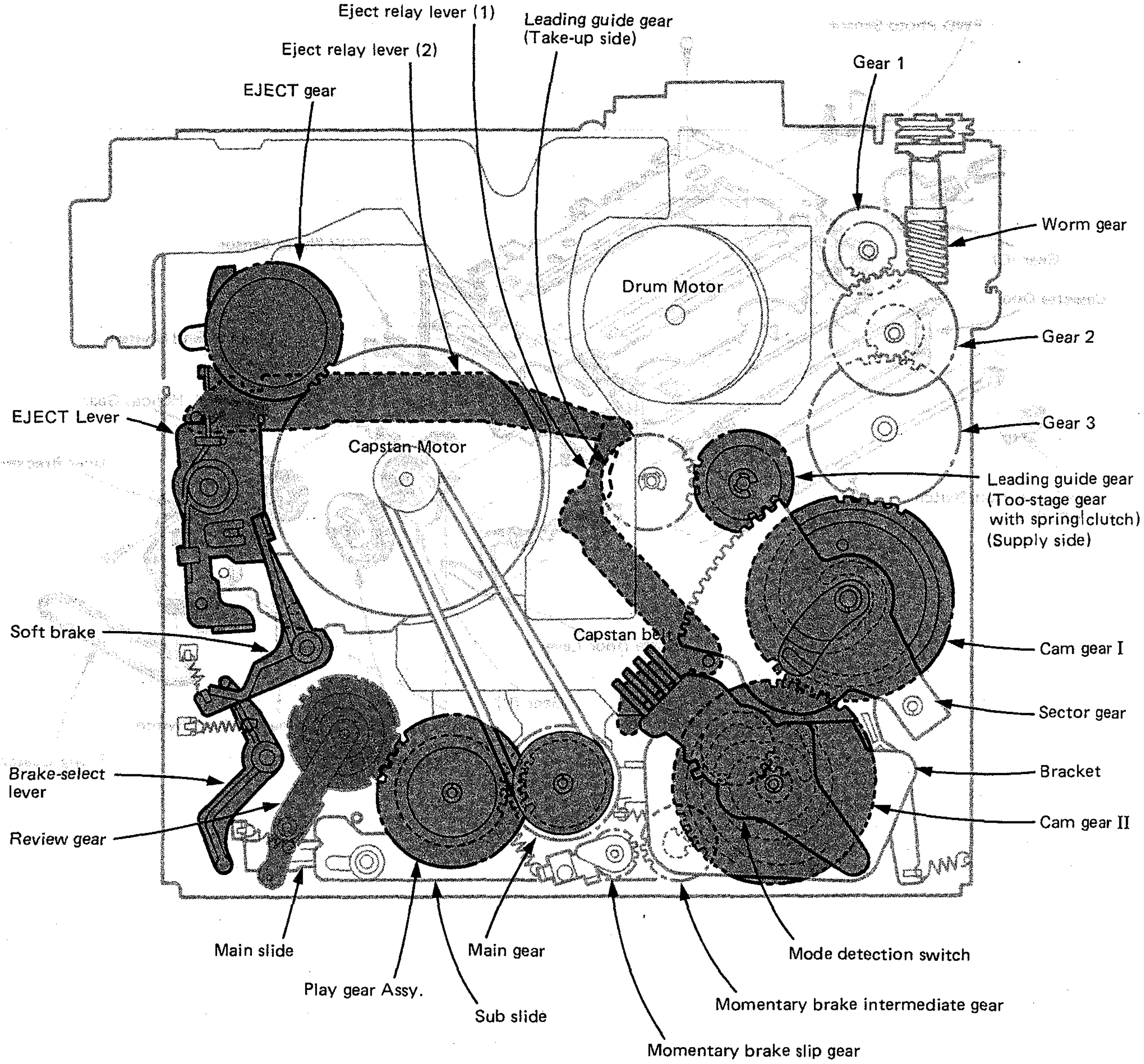

Eject relay lever (1)
Leading guide gear (Take-up side)
Eject relay lever (2)
EJECT gear
Gear 1
Worm gear
Drum Motor
Gear 2
EJECT Lever
Gear 3
Capstan Motor
Leading guide gear (Too-stage gear with spring clutch) (Supply side)
Soft brake
Capstan belt
Cam gear I
Sector gear
Brake-select lever
Bracket
Review gear
Cam gear II
Main slide
Main gear
Mode detection switch
Play gear Assy.
Sub slide
Momentary brake intermediate gear
Momentary brake slip gear

Fig. 1-1-2

▨ These important mechanism parts are descrived at this manual.

(3) Front Loading Mechanism

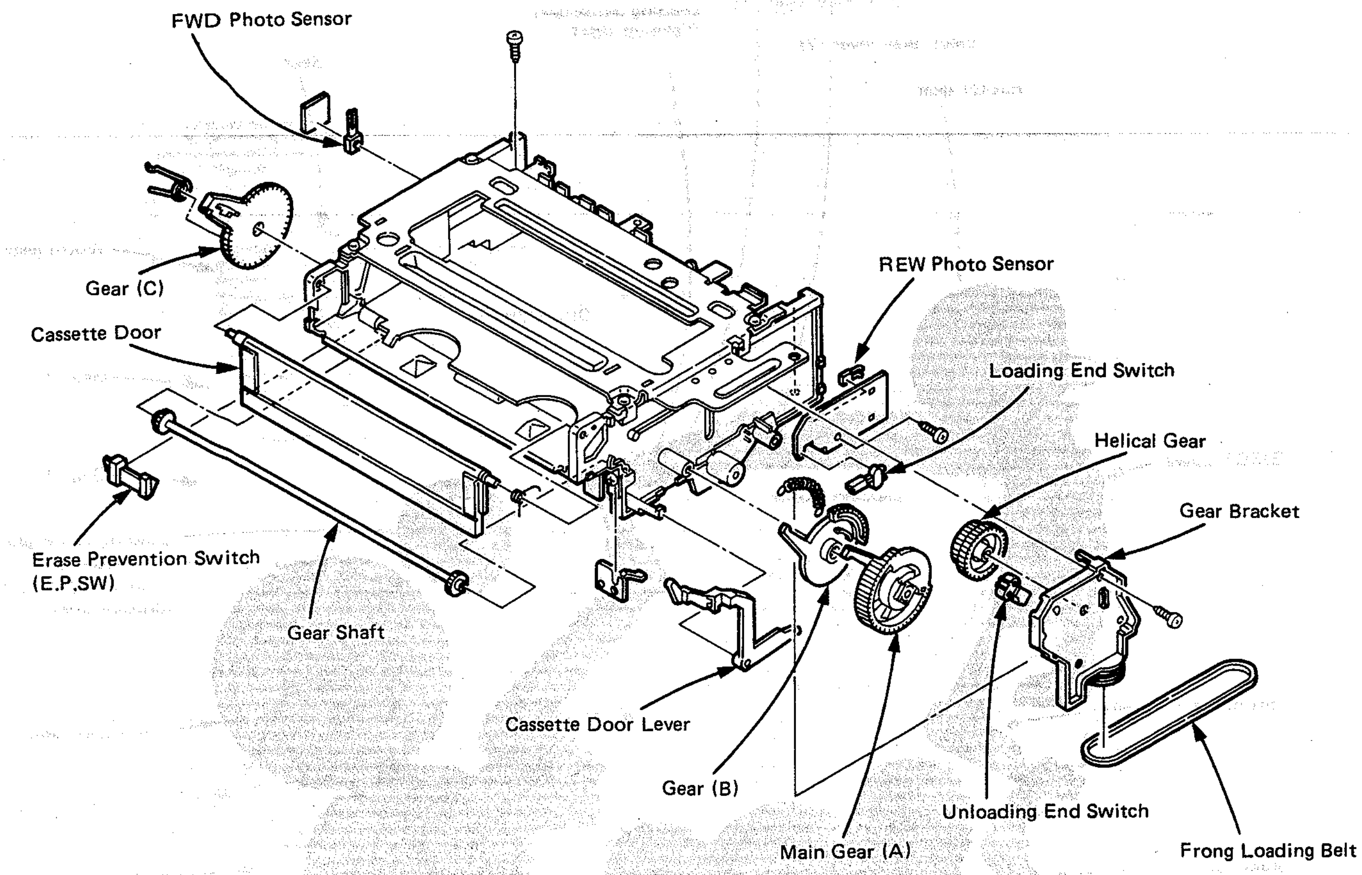

FWD Photo Sensor
Gear (C)
Cassette Door
Erase Prevention Switch (E.P.SW)
Gear Shaft
REW Photo Sensor
Loading End Switch
Helical Gear
Gear Bracket
Cassette Door Lever
Gear (B)
Main Gear (A)
Unloading End Switch
Frong Loading Belt

Fig. 1-1-3

1-2. OUTLINE OF THE MECHANISM

This mechanism is equipped with the M-type tape loading system that is the basic tape loading system for VHS Format video tape recorders. Accordingly, this mechanism is quite the same in fundamental actions as those of current VHS video tape recorders. This mechanism is called PL-mechanism and features the reel drive, cam gear action, front-loading drive, capstan soft brake, and newly employed half-loading mechanism. These features will be detailed below.

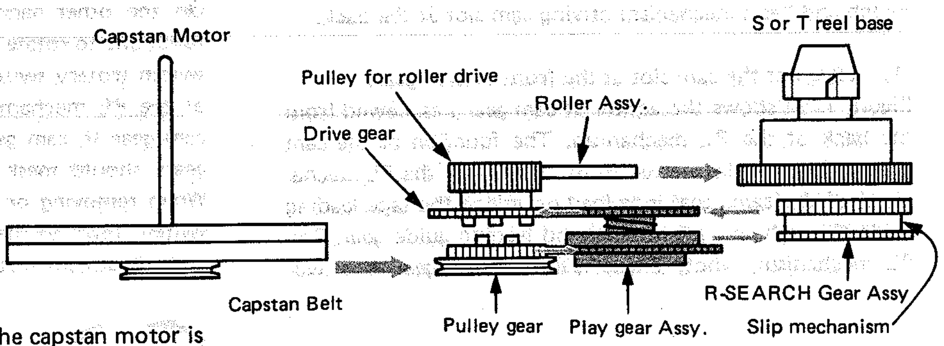

Capstan Motor
Pulley for roller drive
Roller Assy.
Drive gear
S or T reel base
Capstan Belt
R-SEARCH Gear Assy
Pulley gear
Play gear Assy.
Slip mechanism

Fig. 1-2-1 Both reel base drive system

1-2-1. REEL BASE DRIVE SYSTEM

For the PL mechanism, the rotation of the capstan motor is transferred via the capstan belt to each gear, and rotational force is transferred from the roller assembly to both reel bases.

The roller assembly presses against either the supply reel base or the take-up reel base, depending upon the direction of rotation of the capstan motor.

Figure 1-2-1 shows the route of transfer of rotational force.

The slip mechanism functions during playback, recording, forward search and slow motion playback. In other words, during these modes the drive gear is caused to rotate at the fixed torque by force, via the play gear assembly's slip mechanism, from the pulley gear.

During the fast-forward and rewind modes, the pulley gear and drive gear are locked, and, moreover, the engagement of the drive gear and the play gear assembly upper part is disengaged, and the pulley gear and drive gear rotate as one.

During the reverse search mode, the reverse gear assembly meshes with the play gear assembly.

- **Main slip gear**

The main slip gear is composed of the pulley gear, the play gear assembly (which is always meshed with the pulley gear and which generates the playback torque), and the drive gear (which is on the same shaft as the pulley gear).

Figure 1-2-2 shows the normal (playback, record, forward & reverse search, slow, etc.) modes

When the capstan motor rotates in one of these modes, the pulley gear rotates, and, via the playback gear assembly, the drive gear rotates at a fixed torque.

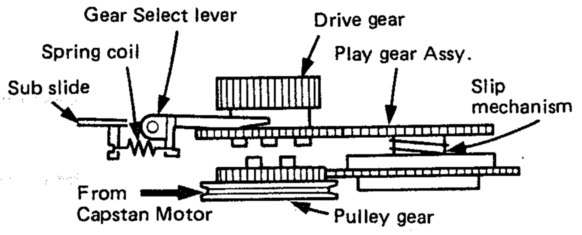

Gear Select lever
Drive gear
Spring coil
Play gear Assy.
Sub slide
Slip mechanism
From Capstan Motor
Pulley gear

Fig. 1-2-2 Slip condition (PLAY. REC. F/R SEARCH, SLOW mode)

Figure 1-2-3 shows the gear conditions during the fast-forward and rewind modes.

As a result of the movement of cam gear II, the sub slide, interlocked with the main slide, moves in the direction of the arrow (A).

Consequently, the spring coil (located between the sub slide and the gear-switching lever) causes the gear-switching lever to turn in the clockwise direction (B) in the illustration.

When this happens, the end of the gear-switching lever presses the drive gear downward (in the direction of the (C) arrow), thus disengaging the engagement with the playback gear assembly.

In addition, as a result of the engagement of the "tab" at the lower part of the drive gear and the "tab" at the top part of the pulley gear, the pulley gear and drive gear become locked, and rotate unified as one. The result, in other words, is that there is no slippage.

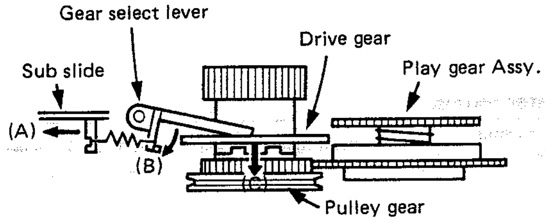

Gear select lever
Drive gear
Sub slide
Play gear Assy.
(A)
(B)
Pulley gear

Fig. 1-2-3 Lock condition (F-FWD, REW modes)

1-2-2. CAM GEARS

The PL mechanism of this unit is equipped with two cam gears.
Cam gear I has mechanism driving cam slots at the front and back; and cam gear II is provided at the front with a gear to rotate the mechanism operating mode detector switch and has a mechanism driving cam slot at the back.

(1) Action of the cam slot at the front of cam gear.
Figure 1-2-4 shows the action of cam gear I as viewed from the back of the PL mechanism. The function of the cam slot at the front (as viewed from the back of the PL mechanism) of the cam gear is to load or unload the tape leading guide through the sector gear and leading guide gear. The PL mechanism, whose S-side leading guide gear is a two-stage gear with spring clutch mechanism, allows the sector gear to move leftward beyond the STOP position. This movement of the sector gear drives the eject lever to mesh the eject gear and the peripheral gear of the capstan motor, resulting in front loading or unloading of the cassette tape being achieved.
On the other hand, the gear at the front of cam gear II functions to rotate the mechanism operating mode detector switch (rotary switch). The important point for the action of the PL mechanism is where the mode detector switch, cam gear II, cam gear I, and S-side and T-side leading guide gears should mesh each other when the unit is stopped. When removing or mounting the gears and mode detector switch, refer to the gear/mode detector switch installation and adjustment section given later.

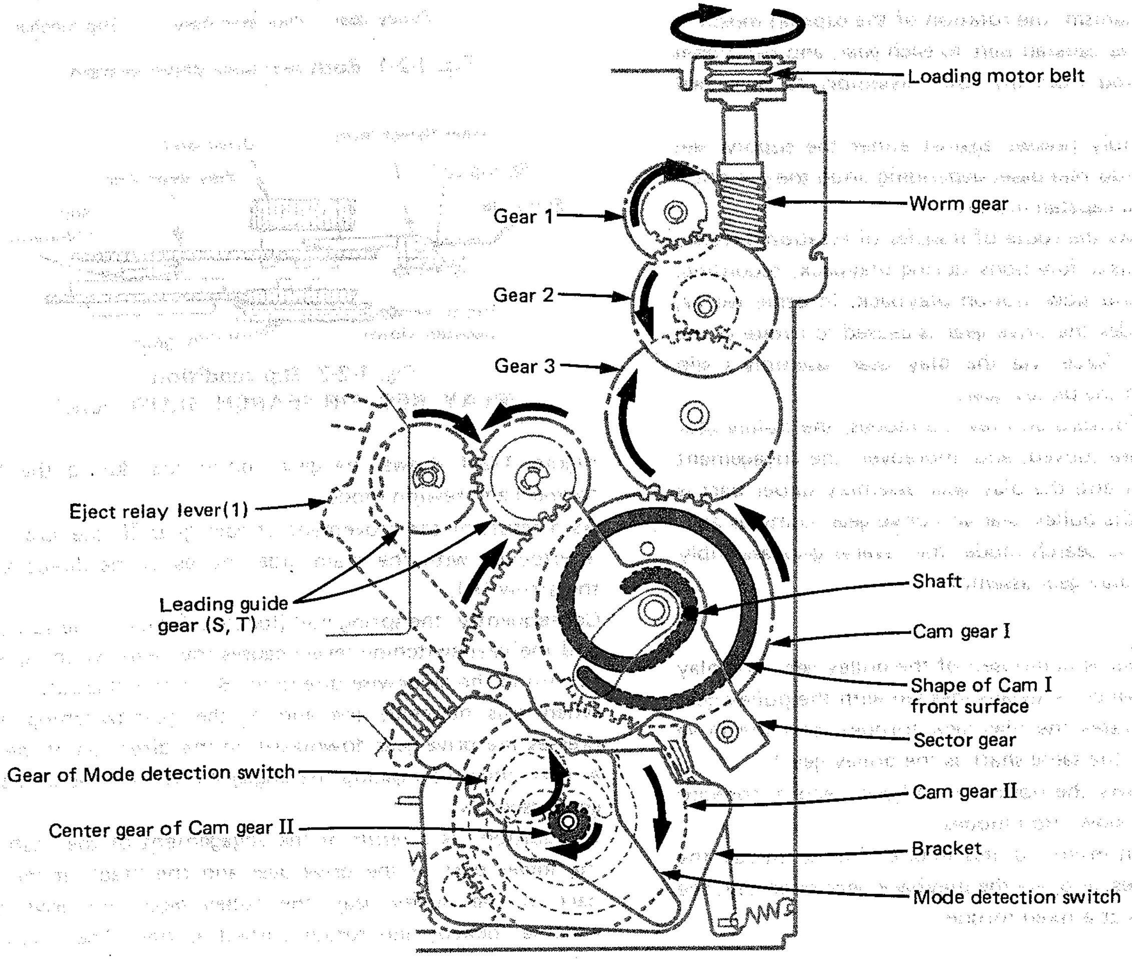
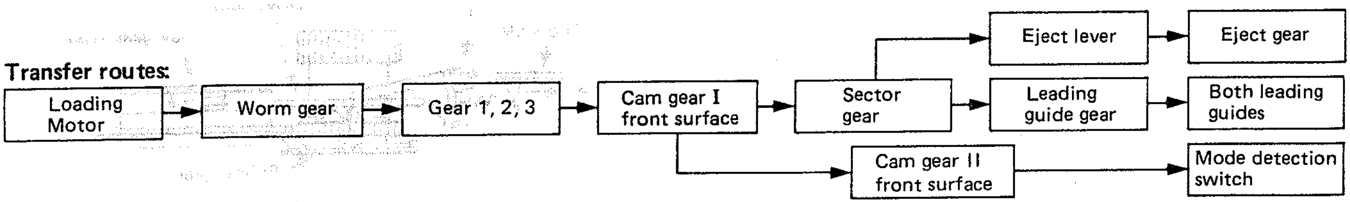

Loading motor belt
Worm gear
Gear 1
Gear 2
Gear 3
Eject relay lever(1)
Leading guide gear (S, T)
Shaft
Cam gear I
Shape of Cam I front surface
Sector gear
Gear of Mode detection switch
Cam gear II
Center gear of Cam gear II
Bracket
Mode detection switch

Fig. 1-2-4 Cam surface movement

Transfer routes:


Loading Motor
Worm gear
Gear 1, 2, 3
Cam gear I front surface
Sector gear
Eject lever
Eject gear
Leading guide gear
Both leading guides
Cam gear II front surface
Mode detection switch

1-2-5.HALF-LOADING MECHANISM

This unit is equipped with the linear time counter and High-Speed Index Search System (VISS/VASS) that always operate based on detected control signals in every mode including REW/F. FWD. Accordingly, the unit uses the half-loading mechanism that enables the tape to always contact the control (A/C) head for detecting control signals even in the REW/F. FWD and STOP modes as shown in Fig. 1-2-8.

As shown in Fig. 1-2-9 the half-loading lever assembly consists of three levers linked together. The half-loading lever shaft is always pressed against the pinch roller pressing slide lever by spring (a). The slide lever is situated on the back of the half-loading mechanism and is moved to the right and left along the above-mentioned cam slot at the back of cam gear I. Figure 1-2-9 shows in what state the slide lever and half-loading lever are when the unit is in the EJECT mode. When the unit is loaded with a cassette tape and enters the STOP mode, the pinch roller pressing slide lever moves to the left to raise the half-loading lever shaft according to the shape of the lever, putting the unit in the tape half-loading state shown in Fig. 1-2-8. When the tape is normally run in the leading guide as in the PLAY or R/F SEARCH mode, the half-loading lever is returned a little by the pinch-roller pressing slide lever, preventing the half-loading guide from touching the tape for protecting it.

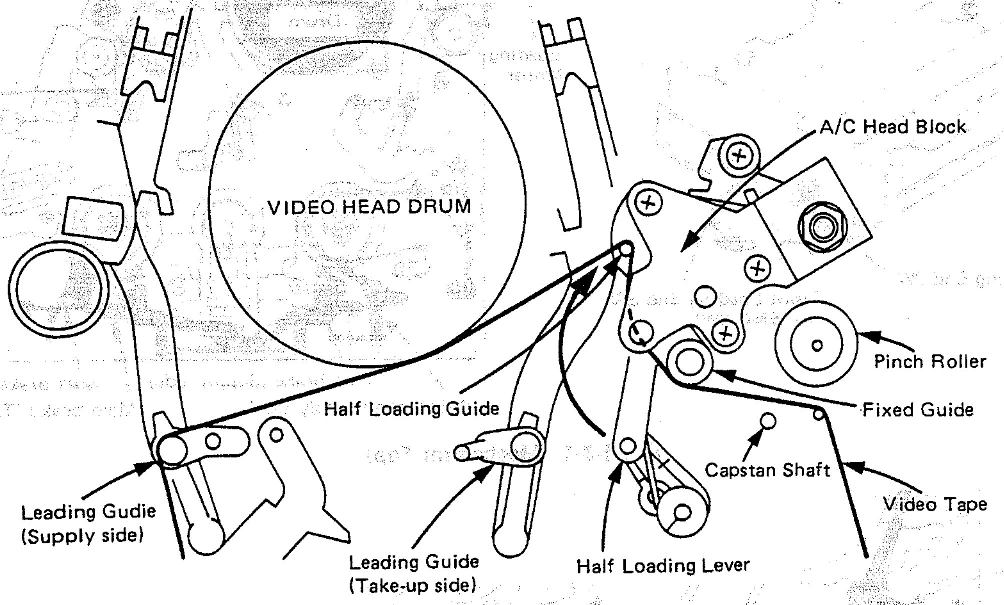

VIDEO HEAD DRUM
A/C Head Block
Pinch Roller
Fixed Guide
Half Loading Guide
Capstan Shaft
Video Tape
Leading Gudie
(Supply side)
Leading Guide
(Take-up side)
Half Loading Lever

Fig. 1-2-8

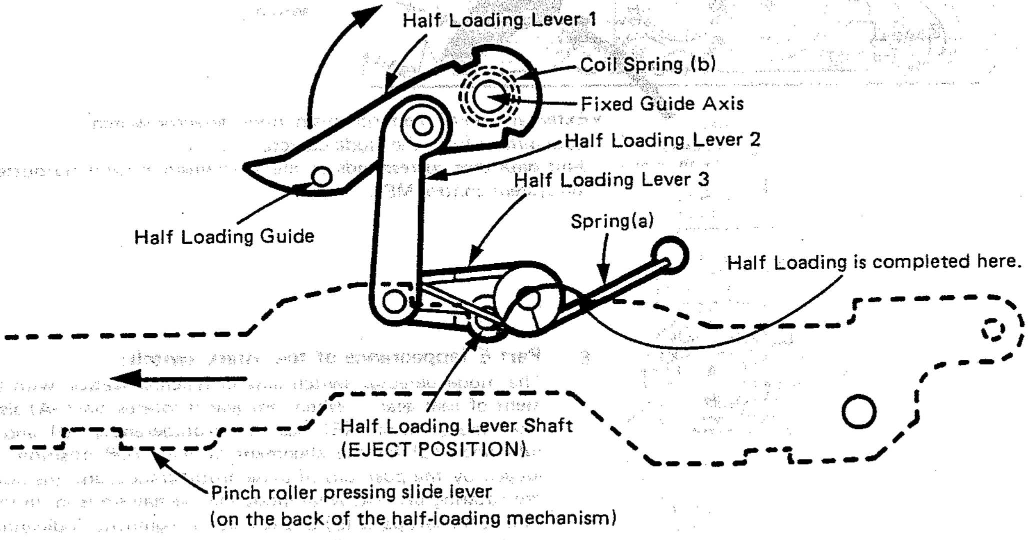

Half Loading Lever 1
Coil Spring (b)
Fixed Guide Axis
Half Loading Lever 2
Half Loading Lever 3
Half Loading Guide
Spring(a)
Half Loading is completed here.
Half Loading Lever Shaft
(EJECT POSITION)
Pinch roller pressing slide lever
(on the back of the half-loading mechanism)

Fig. 1-2-9

1-3. MECHANISM OPERATION IN EACH MODE

The movement of the mechanism in each mode is descrived below.

In this section, timing charts are used to present the movement of the motor and brake components during eight modes.

(1) Cassette insertion
(2) Changing from the stop mode to the playback mode
(3) Changing from the playback mode to the reverse-search mode
(4) Changing from the record mode to the pause mode
(5) Changing from the playback mode to the stop mode
(6) Changing from the stop mode to the fast-forward mode
(7) Changing from the stop mode to the rewind mode
(8) Changing from the stop mode to the eject mode

1-3-1. ILLUSTRATIONS OF THE ARRANGEMENT OF THE MOTOR AND BRAKE COMPONENTS ARE SHOWN IN Figs. 1-3-1 and 1-3-2

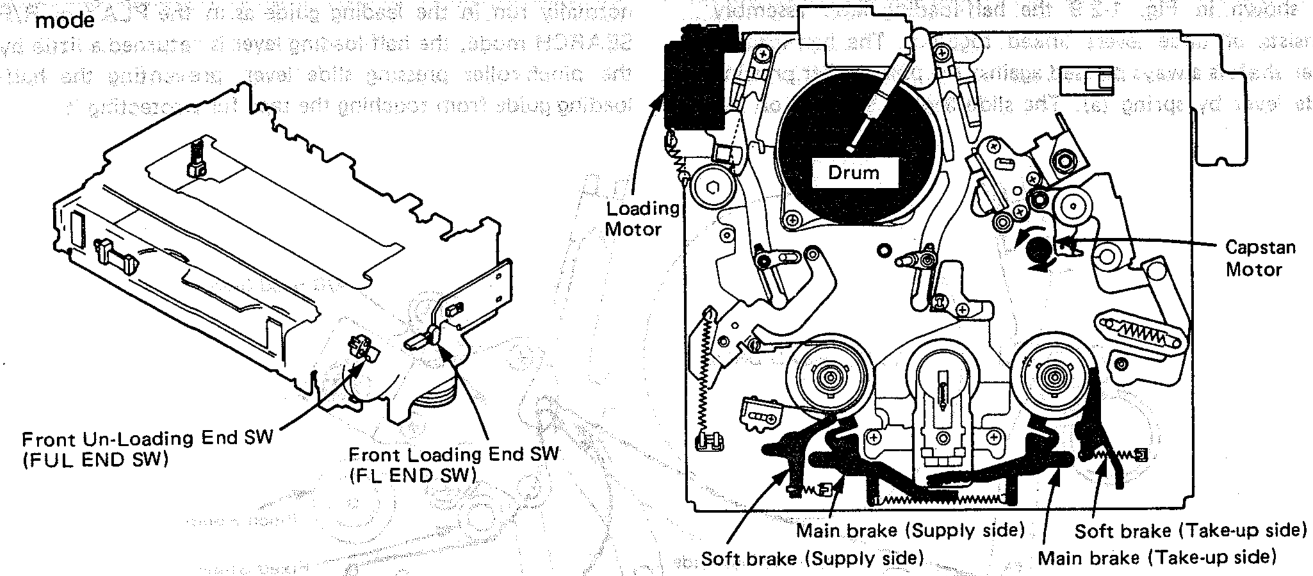
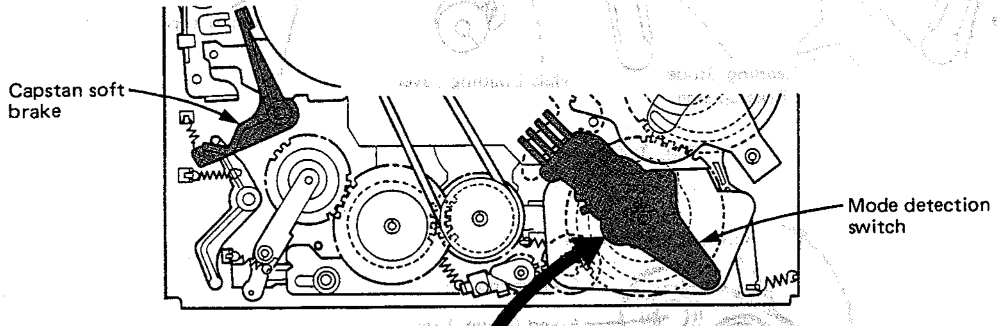
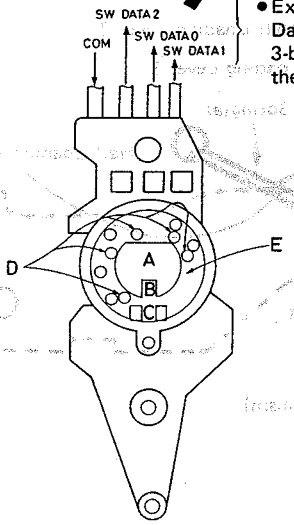

Drum
Loading Motor
Capstan Motor
Front Un-Loading End SW (FUL END SW)
Front Loading End SW (FL END SW)
Main brake (Supply side)
Soft brake (Supply side)
Soft brake (Take-up side)
Main brake (Take-up side)

Fig. 1-3-1 (Mechanism Top)


Capstan soft brake
Mode detection switch


SW DATA2
SW DATA0
COM
SW DATA1
D
A
B
C
E

- External view of the mechanism mode detector switch

Data output from the mode detector switch
3-bit data that corresponds to the mechanism mode is outputted to the system control MPU.

Part E (appearance of the rotary switch)
The mode detector switch acts in synchronization with the movement of cam gear II. When cam gear II rotates, part (A) also rotates. The rotary switch (E) has ten protuberances (D) and the protuberance (C) for the alignment of the STOP position. It can be judged by the positions of these protuberances and the notch (B) of the rotating part (A) what mode the mechanism is in. In the illustration at the left parts (B) and (C) are in alignment, indicating that the mechanism is in the STOP mode. The enlarged view of part E shown in Fig. 1-3-3 shows in what position the mechanism mode detector switch is in respective modes.

Fig. 1-3-2 (Mechanism Bottom)

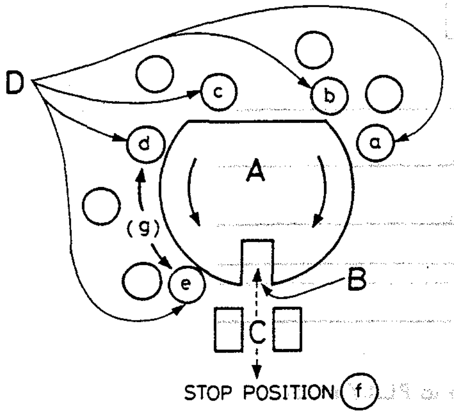
1-3-2. MECHANISM OPERATION IN EACH MODE (Table 1-3-1)

Parts Name / Mode	Loading Motor	Capstain Motor	Drum Motor	Main brake		Soft brake		Capstain motor Soft brake	Mode detection SW DATA (3bit HEX. DATA)
				S	T	S	T		
CASSETTE IN	OFF	ON (C.C.W)	OFF	OFF	ON	OFF	ON	OFF	①
HALF LOADING	ON (C.C.W)	OFF	OFF	OFF	ON	OFF	ON	OFF	⑦
STOP	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	③
LOADING	ON (C.C.W)	ON → OFF (C.W.)	ON	OFF	ON	ON	ON	OFF	③→④
UN-LOADING	ON (C.W)	ON (C.C.W)	ON (C.C.W → OFF)	OFF	ON	ON	ON	OFF	④→③
PLAY/REC	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	④
F-SEARCH	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	④
R-SEARCH	OFF	ON (C.C.W)	ON	OFF	OFF	OFF	ON	OFF	⑥
STILL	OFF	OFF	ON	OFF	OFF	OFF	ON	ON	⑤
SLOW, F-ADV	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	ON	⑤
F FWD	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	②
REW	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	②
PAUSE	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	④
HALF UN-LOADING	ON (C.W)	ON (C.C.W)	OFF	OFF	ON	OFF	ON	OFF	⑦
EJECT	OFF	ON (C.W)	OFF	OFF	ON	OFF	ON	OFF	①

Table 1-3-1

Note:
1. CW: clockwise direction
   CCW: counterclockwise direction
   The rotation of the capstan, drum and each motor is as seen from the chassis surface (top); the rotation of the loading motor is as seen from the front of the unit.
2. ON/OFF condition of brakes:
   ON: when brake is applied
   OFF: when brake is not applied

Enlarged view of part E of the mechanism mode detector switch



Relations between respective modes and the mode switch positions as well as mode switch data output

MODE SW / MODE	SW POSITION	3bit SW DATA			
		DATA 2	DATA 1	DATA 0	HEX DATA
EJECT	d	0	0	1	①
F·FWD/REW	e	0	1	0	②
STOP	f	0	1	1	③
PLAY/REC F. SEARCH	a	1	0	0	④
SLOW/STILL	b	1	0	1	⑤
R·SEARCH	c	1	1	0	⑥
HALF-LOADING	(g)	1	1	1	⑦

Fig. 1-3-3

1-3-3. TIMING CHARTS FOR SEFVEN MAIN MODES

The mechanism operation for each mode as time passes is shown in the following charts.

- The rotation direction of the drum motor and capstan motor is as seen from above the mechanism.
- The rotation direction of the loading motor is as seen from the front of the unit.
- ON/OFF condition of brakes:

ON: when brake is applied
OFF: when brake is not applied

(1) CASSETTE IN

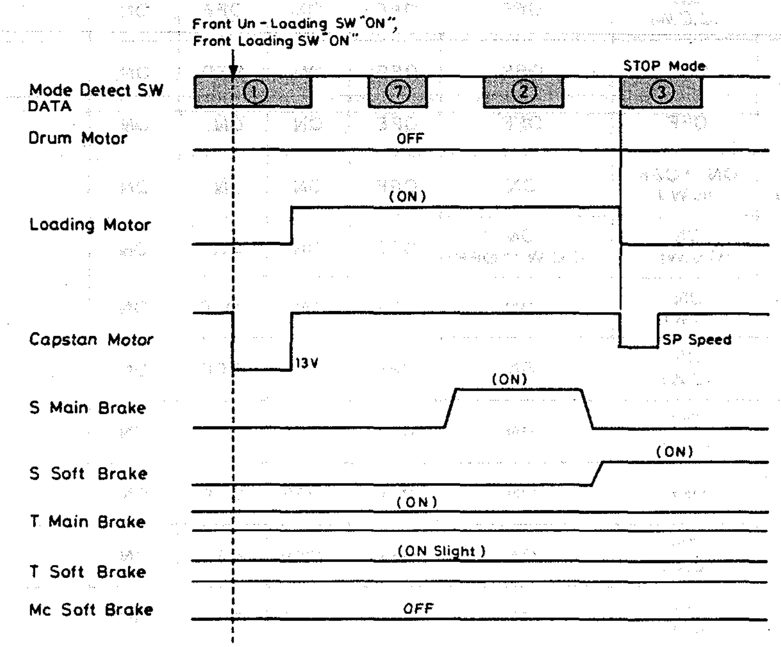


Table 1-3-2 Timing chart of CASSETTE IN mode

(2) From STOP mode to PLAY mode

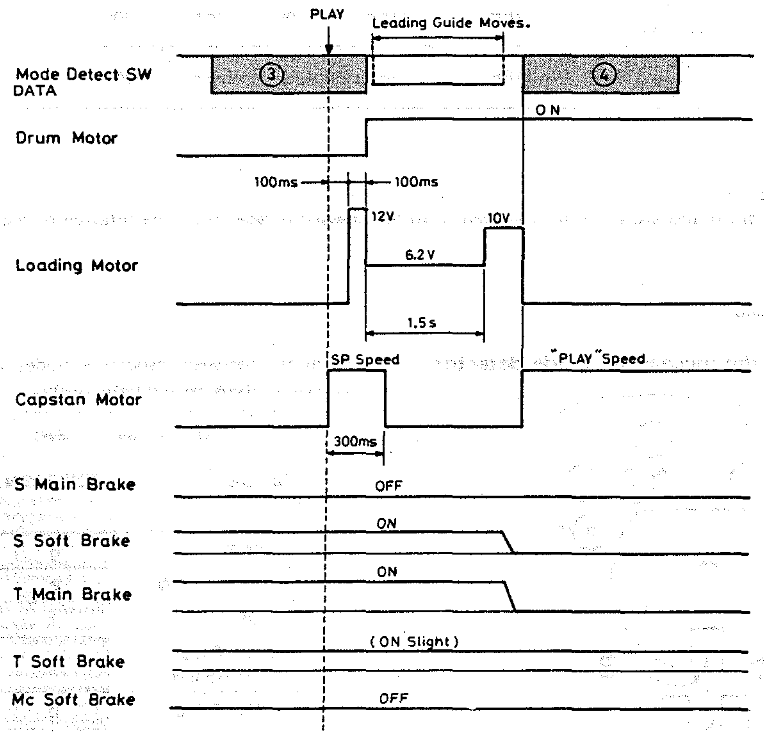
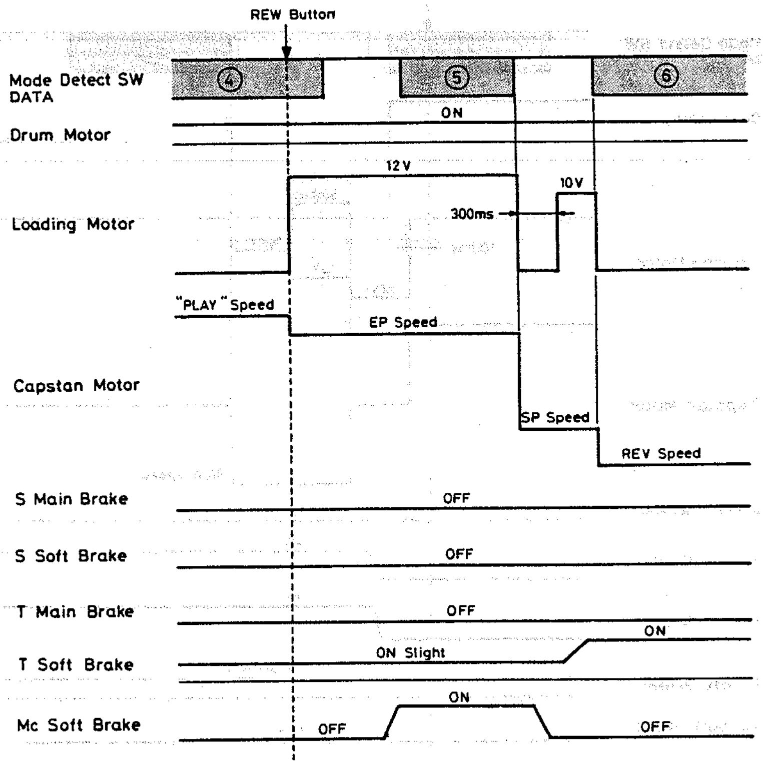


Table 1-3-3 Timing chart of STOP mode to PLAY mode

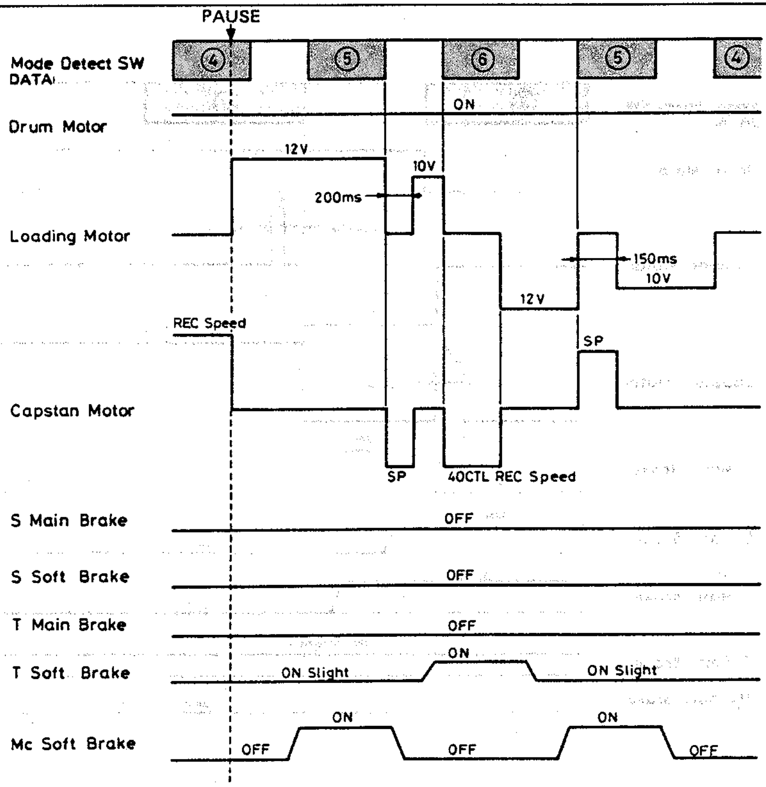
(3) PLAY mode to R-SEARCH mode



REW Button
Mode Detect SW DATA
④
⑤
⑥
ON
Drum Motor
12V
10V
300ms
Loading Motor
"PLAY" Speed
EP Speed
Capstan Motor
SP Speed
REV Speed
S Main Brake
OFF
S Soft Brake
OFF
T Main Brake
OFF
ON
T Soft Brake
ON Slight
ON
Mc Soft Brake
OFF
OFF

Table 1-3-4 Timing chart of PLAY mode to R-SEARCH mode

(4) REC mode to PAUSE mode



PAUSE
Mode Detect SW DATA
④
⑤
⑥
⑤
④
ON
Drum Motor
12V
10V
200ms
Loading Motor
150ms
10V
12V
REC Speed
SP
Capstan Motor
SP
40CTL REC Speed
S Main Brake
OFF
S Soft Brake
OFF
T Main Brake
OFF
ON
T Soft Brake
ON Slight
ON Slight
ON
ON
Mc Soft Brake
OFF
OFF
OFF

Table 1-3-5 Timing chart of REC mode to PAUSE mode.

(5) PLAY mode to STOP mode

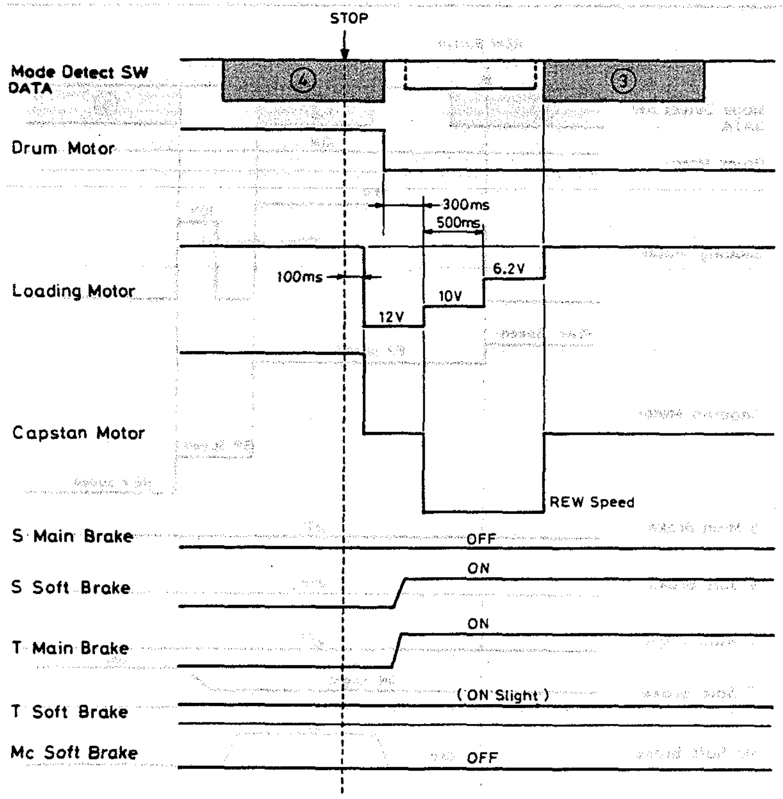

STOP
Mode Detect SW DATA
④
③
Drum Motor
300ms
500ms
Loading Motor
100ms
12V
10V
6.2V
Capstan Motor
REW Speed
S Main Brake
OFF
S Soft Brake
ON
T Main Brake
ON
T Soft Brake
(ON Slight)
Mc Soft Brake
OFF

Table 1-3-6 Timing chart of PLAY mode to STOP mode

(6) STOP mode to F-FWD mode

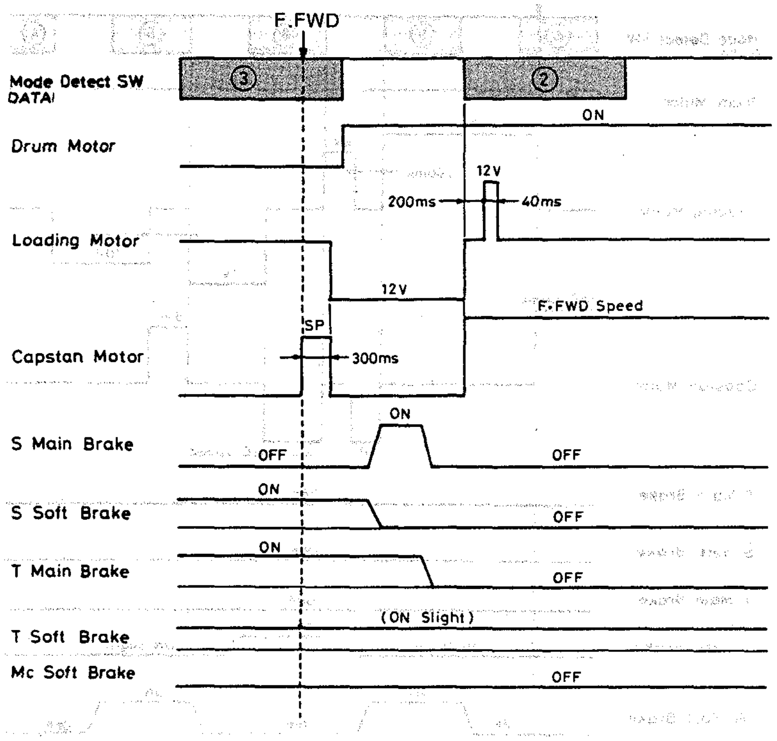

F.FWD
Mode Detect SW DATA
③
②
Drum Motor
ON
Loading Motor
12V
200ms
40ms
12V
Capstan Motor
SP
300ms
F-FWD Speed
S Main Brake
OFF
ON
OFF
S Soft Brake
ON
OFF
T Main Brake
ON
OFF
T Soft Brake
(ON Slight)
Mc Soft Brake
OFF

Table 1-3-7 Timing chart of STOP mode to F-FWD mode

(7) STOP mode to REW mode

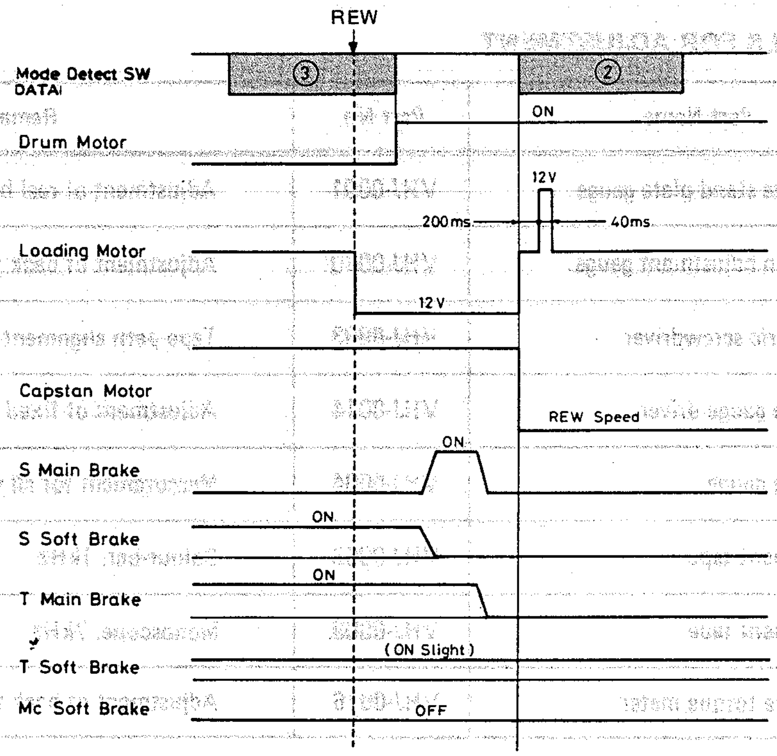


Table 1-3-8 Timing chart of STOP mode to REW mode

(8) STOP mode to EJECT mode

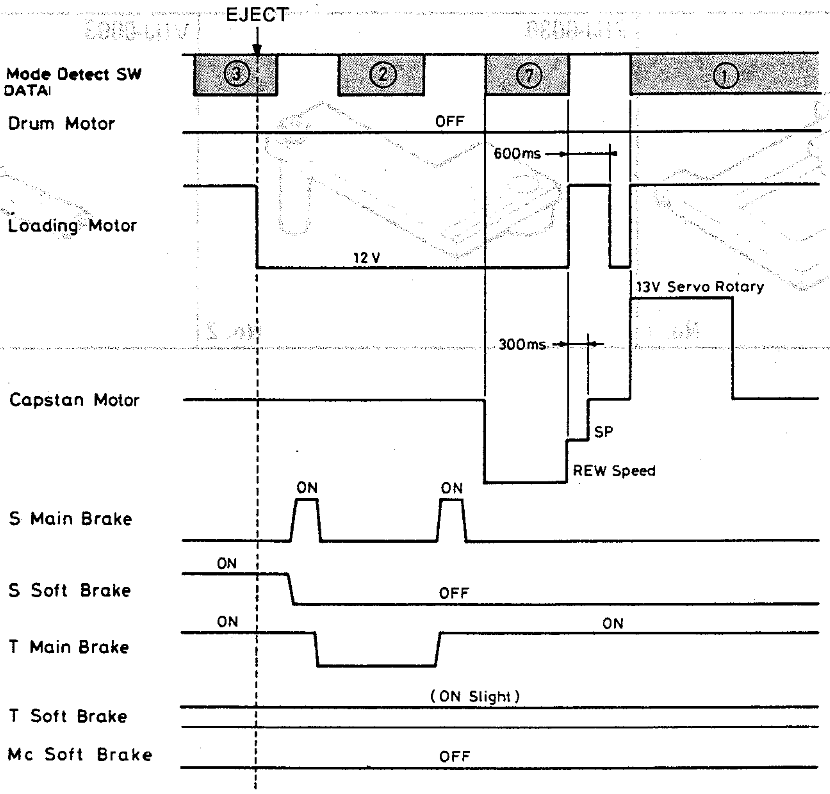


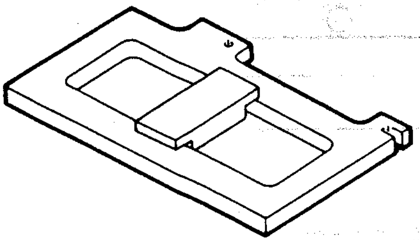
Table 1-3-9 Timing chart of STOP mode to EJECT mode

2. MECHANISM ADJUSTMENTS

2-1. JIGS AND TOOLS FOR ADJUSTMENT

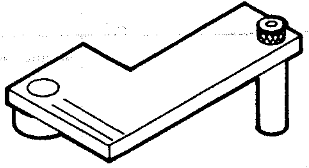
No.	Part Name	Part No.	Remarks
1	Cassette stand plate gauge	VHJ-0001	Adjustment of reel height
2	Position adjustment gauge	VHJ-0030	Adjustment of back tension guide
3	Eccentric screwdriver	VHJ-0003	Tape path alignment
4	Torque gauge driver	VHJ-0014	Adjustment of fixed screws
5	Torque gauge	VHJ-0004	Measurement for all winding torque
6	Alignment tape	VHJ-0008	Colour-bar. 1kHz
7	Alignment tape	VHJ-0009	Monoscope. 7kHz
8	Cassette torque meter	VHJ-0016	Adjustment of back tension torque

VHJ-0001



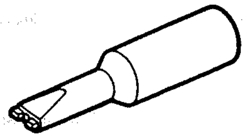
No. 1

VHJ-0030



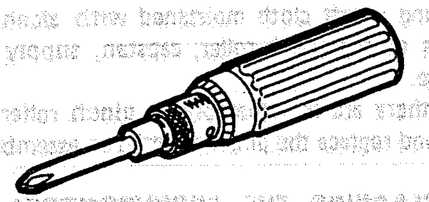
No. 2

VHJ-0003



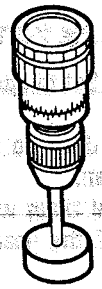
No. 3

VHJ-0014



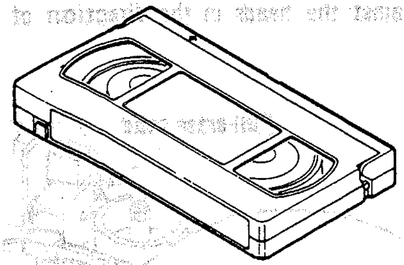
No. 4

VHJ-0004



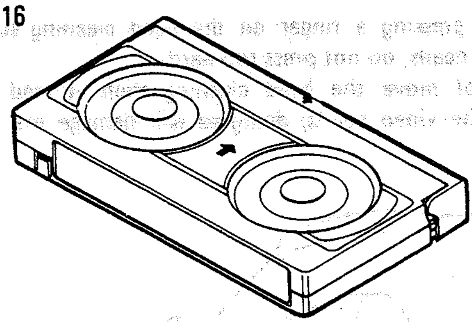
No. 5

VHJ-0008, VHJ-0009



No. 6, 7

VHJ-0016



No. 8

2-2. STANDARD MAINTENANCE TIMETABLE

In order to keep the VCR in peak working order, care for the parts indicated in **Table 2-2-1** at the periods given.

Parts \ Hours	500	1000	1500	2000	2500	3000	3500	4000	4500
VIDEO HEAD	○	○	○	○	○	○	○	○	○
ADUIO/CONTROL HEAD	○	○	○	○	○	○	○	○	○
FULL ERASE HEAD	○	○	○	○	○	○	○	○	○
CAPSTAN MOTOR	○	○	○	○	○	○	○	○	○
PINCH ROLLER	○	○	○	○	○	○	○	○	○
TAKE-UP REEL				▲			▲		
SUPPLY REEL				▲			▲		

Table 2-2-1

○ : Cleaning
▲ : Lubrication

2-3. CLEANING

2-3-1. VIDEO HEAD (See Fig. 2-3-1.)

(1) Turn off the power. [Set the power switch to the OFF position.]
(2) Move the video head drum to a position at which the video heads are easy to clean.
(3) Wipe each head several times with the deerskin part of the head cleaning stick. If the heads are extremely dirty, wipe more times.

(Note)

- When pressing a finger on the head cleaning stick to clean the heads, do not press too hard.
- Do not move the head cleaning stick up and down against the video heads; doing so will damage the heads.

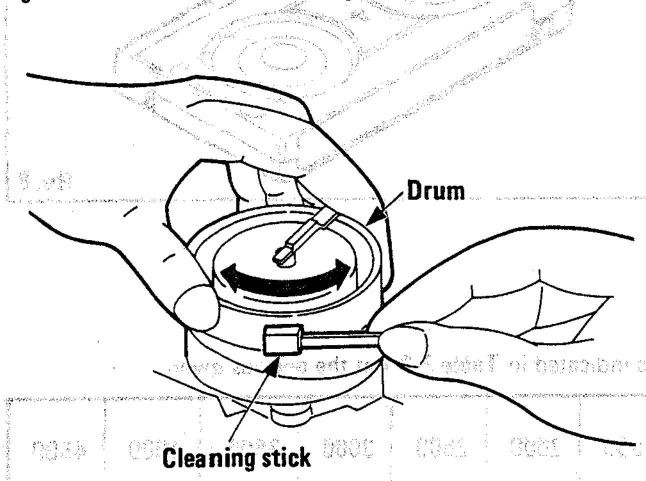


Fig. 2-3-1

2-3-2. TAPE PATH

Clean the surfaces of the tape guides and the drum tape path by using a soft cloth or cleaning stick moistened with an alcohol.

(Note)

When cleaning the drum surfaces, be careful not to contact the video heads.

2-3-3. PINCH ROLLER, CAPSTAN, SUPPLY AND TAKE-UP REEL BASE

(1) Using a soft cloth moistened with alcohol, clean the surfaces of the pinch roller, capstan, supply and take-up reel base.
(2) If there are scratches on the pinch roller, remove the E-ring and replace the pinch roller lever assembly.

2-3-4. CLEANING THE AUDIO/CONTROL HEAD AND FULL-ERASE HEAD (See Fig. 2-3-2, 2-3-3.)

Apply alcohol to the cleaning stick, and move the cleaning stick against the heads in the direction of the head gap.

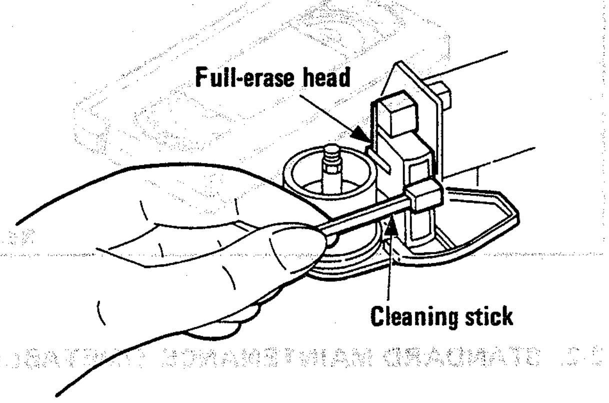


Fig. 2-3-2

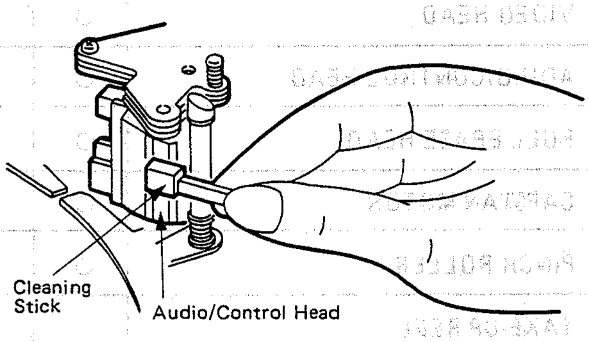


Fig. 2-3-3

2-4. MECHANISM REPAIR AND PARTS REPLACEMENT

2-4.1. BACK TENSION BRAKE BAND AND BACK TENSION LEVER (See Fig. 2-4-1.)

(1) Remove the spring (a).
(2) Remove the screw (b) and washers (c), and then remove the brake band and backtension lever.
(3) Disconnect the brake band lever from the back tension lever.
(4) Install the new brake band by reversing the removal procedure.

(Note)

Be careful not to crease or scratch the new brake band.
(5) Adjust the position of the back tension lever.

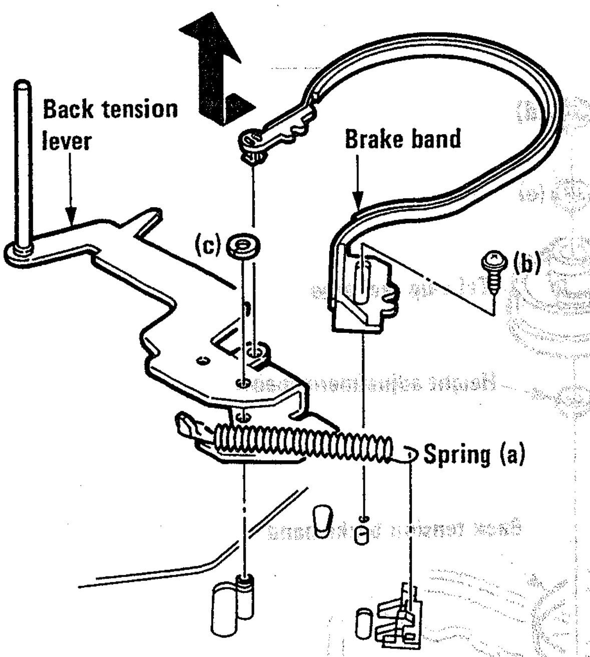

Back tension lever
Brake band
(c)
(b)
Spring (a)

Fig. 2-4-1

2-4-2. LOADING MOTOR (See Fig. 2-4-2.)

(1) Disconnect the loading motor connector.
(2) Remove the loading motor belt.
(3) Remove the screws (a), and then remove the loading motor assembly.
(4) Replace the loading motor, and install it in the reverse order of removal.

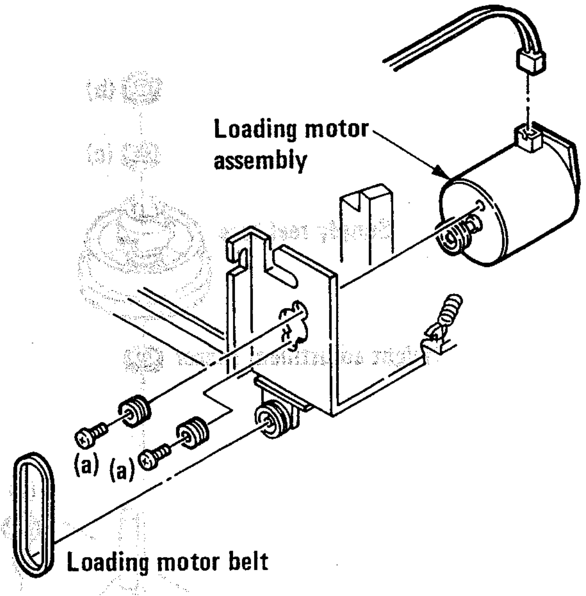

Loading motor assembly
(a)
(a)
Loading motor belt

Fig. 2-4-2

2-4-3. SUPPLY REEL BASE (See Fig. 2-4-3.)

(1) Remove the screw (a) of brake band.

(2) Remove the special washer (b) and washer (c), and then remove the supply soft brake reel base.

(Note)

Be careful not to lose the height adjustment spacer.

(3) Wipe off the old oil from the reel shaft by using a cloth moistened with alcohol, and then apply a small amount of new oil.

(4) If a new supply reel base is being installed, adjust the reel base height.

2-4-4. TAKE-UP REEL BASE (See Fig. 2-4-3.)

(1) Remove the special washer (d) and washer (e), and then remove the take-up reel base.

(Note)

Be careful not to lose the height adjustment spacer.

(2) Wipe off the old oil from the reel shaft by using a cloth moistened with alcohol, and then apply a small amount of new oil.

(3) If a new take-up reel base is being installed, adjust the reel base height.

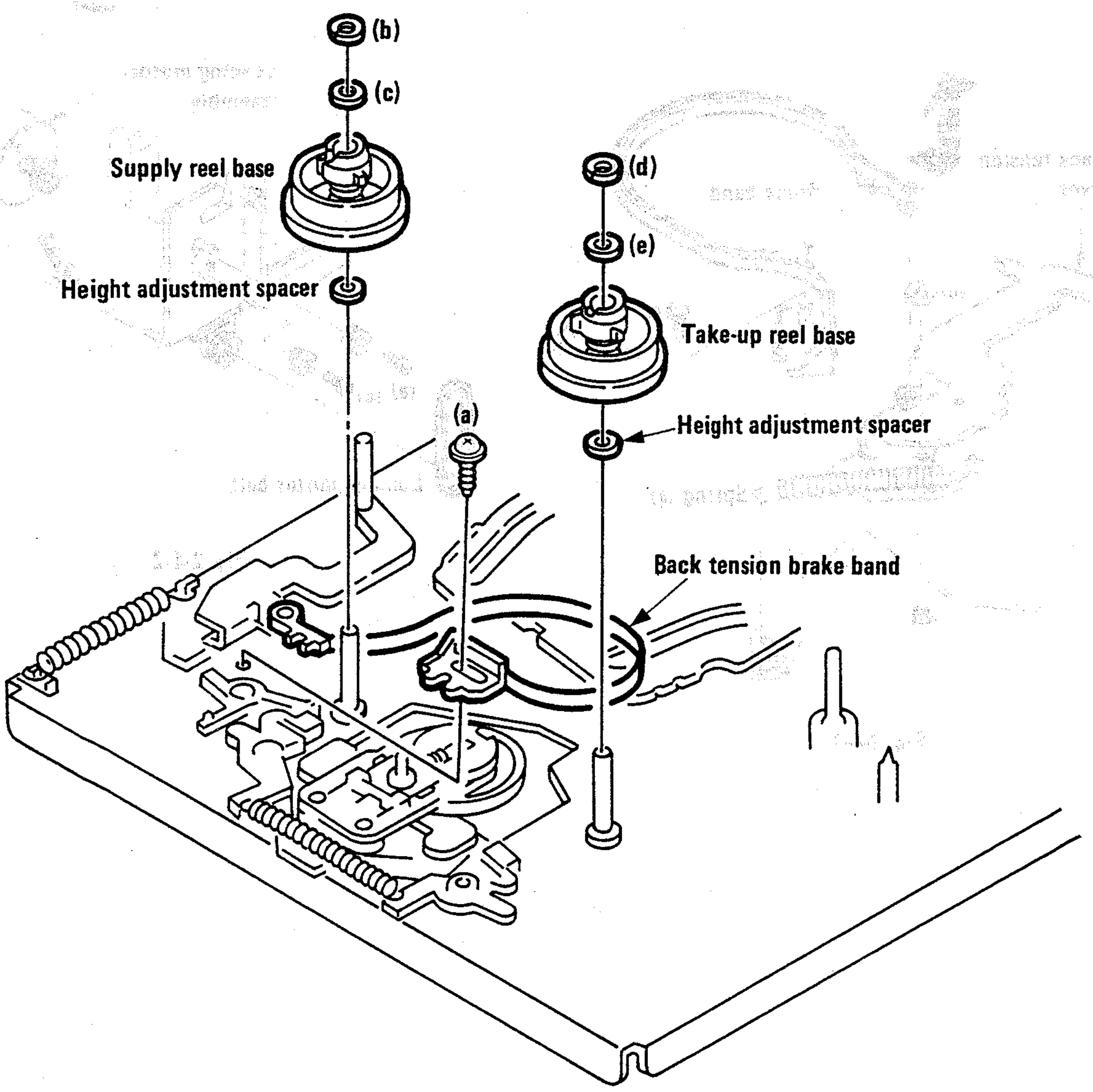
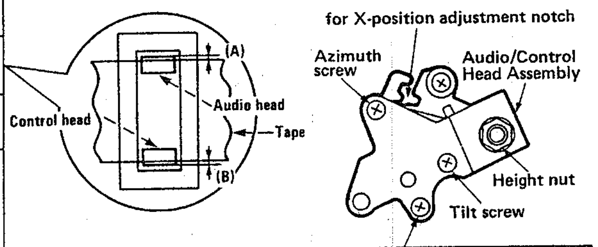

(b)
(c)
Supply reel base
(d)
(e)
Height adjustment spacer
Take-up reel base
(a)
Height adjustment spacer
Back tension brake band

Fig. 2-4-3

TAPE-TRANSPORT ADJUSTMENT

	Adjustment Item	Adjustment Point	Tape	Adjustment method	Notes and check points
1	ENTRANCE SIDE, EXIT SIDE TAPE GUIDE	ENTRANCE SIDE, EXIT SIDE TAPE GUIDE	VHJ-0009	(1) Turn the tracking control to obtain the maximum envelope. (2) Tighten the entrance and exit guides after alternately loosening them, and adjust to the point where the envelope is flat.	(1) Monitor the envelope at the RF switching pulse LOW side, (Monitor at the + side of the oscilloscope trigger slope.) (2) Be careful not to tighten the entrance and exit guides excessively. (They should be tightened only to the extent that the front half and back half are not down.) (3) The height of the impedance roller is not to be adjusted. (Only if there is fluctuation of the envelope front half, then an adjustment can be made (within a range of 90°) in the direction in which the tape is lifted.
2	FIXED TAPE GUIDE	FIXED TAPE GUIDE	VHJ-0009	(1) In the playback mode, free the guide and align the flange below the guide with the tape. (Adjust so that the tape is not pushed upward.)	(1) If the tape is creased at the lower flange during R-search, lowr the fixed guide to the extent that there is no creasing.
3	AUDIO/CONTROL HEAD	AZIMUTH SCREW	VHJ-0009	(1) Adjust (by the azimuth screw) the audio level to maximum.	 for X-position adjustment notch Azimuth screw Audio/Control Head Assembly (A) Audio head Tape (B) Control head Height nut Tilt screw **Note: This screw is set to the height adjustment standard for audio/control head, and therefore should not be touched.**
		HEIGHT SCREW		(2) Visually adjust the head height. [Adjust so that the upper part (A) of the audio head and the lower part (B) of the control head can be seen equally.	
		TILT SCREW		(3) If the audio level fluctuates, tighten the tilt screw within a range of 90°, and again make the adjustments in items (1) and (2).	
		X-VALUE SCREW		(4) Set the tracking VR to its center position and adjust so that the envelope is maximized. Method: Loosen the X-position adjustment screw by about 45°, then insert a flat-tip (–) screwdriver in the notch and adjust so as to obtain the maximum envelope. After completing the adjustment, firmly tighten the X-position adjustment screw.	
4	RECORDING/ PLAYBACK CHECK	ENTRANCE SIDE, EXIT SIDE TAPE GUIDE	(T120 TAPE RECORDING/ PLAYBACK)		(1) Check the envelope (front half down 50% or less) during playback. (2) Check for tape creasing at each guide during playback and R-search. (Be careful of tape creasing at the fixed guide during R-search.)

- TAPE TRAVEL CHECK DIAGRAM

(Note)) (marks: Tape regulation point

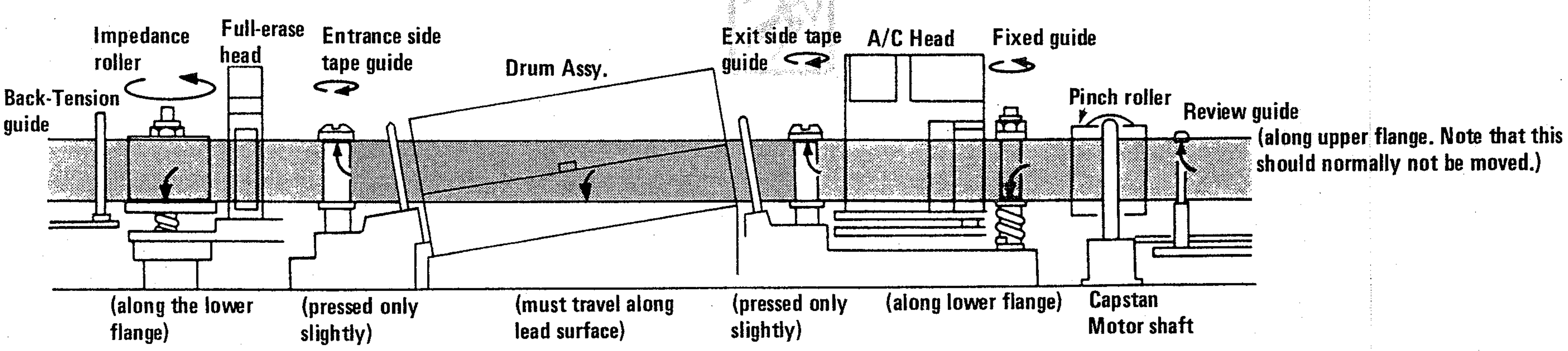

Impedance roller
Full-erase head
Entrance side tape guide
Drum Assy.
Exit side tape guide
A/C Head
Fixed guide
Back-Tension guide
Pinch roller
Review guide
(along upper flange. Note that this should normally not be moved.)
(along the lower flange)
(pressed only slightly)
(must travel along lead surface)
(pressed only slightly)
(along lower flange)
Capstan Motor shaft

Fig. 2-7-2